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76% CAUSTIC SODA (SOLID & FLAKE)
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SILICATE OF SODA, GLASS
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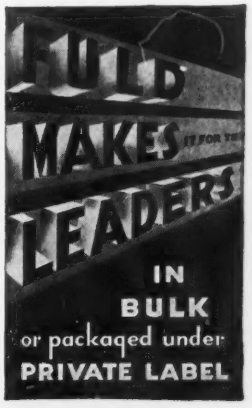

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Soap and Sanitary Chemicals

Reg. U. S. Pat. Office

Volume XVI
Number 2

FEBRUARY
1940

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MEMBER AUDIT BUREAU OF CIRCULATIONS

Published by

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IDEA
THAT WILL

SELL HAND SOAP AN
INCREASE YOUR

● Here's a sales and merchandising idea that w take your Mechanics Hand Soap out of garages tool boxes . . . cellar shelves . . . into big volume s for kitchen and bathroom use.

Glass is the answer. Your brand of hand soap tractively packaged in a glass container we h specially designed for it. Consider for a moment practical as well as merchandising advantages of g —No rust or corrosion . . . No drying out with efficient Anchor Amerseal Cap . . . Product can distinctly colored to identify your brand . . . Ca easily removed and resealed with a simple quar turn . . . Glass offers highest "eye appeal" . . . G means quality and a better price structure.

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This attractive, wide-mouth jar, sealed with the efficient and easily removed Anchor Amerseal Cap will bring your Mechanics Hand Soap out of the cellar into the kitchen and bathroom—lifting sales and profits to new heights.

PACK IN GLASS FOR GREATER SALES AND GREATER PROFITS!

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These important sales features of Glass will increase your hand soap sales—take it out of a limited and highly competitive field and put it in the fast turnover class.

Anchor Hocking, with its complete facilities, from container to closure to carton to packaging machinery, has a definite merchandising story to tell hand soap manufacturers. This story, and sample containers are yours for the asking.

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Liquid Soaps & Bases
Oils, Soaps, & Liquids
Disinfectants
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Waxes & Polishes
Deodorizing Blocks
Containers
and Allied Products

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JAVONELLA

THE PERFECT PERFUME FOR

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- Washing Powders
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Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS.
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It's An Auld Irish Superstition

"Let them as cannot afford the ritual of exorcism for haunted premises, scatter about in likely places great handfuls of salt. Poltergeists, demons and other unkindly spirits swoosh off at once, making loud whimpering noises."

— From unpublished Folklore.

If this recipe failed to work, the cost was some unexpected frights for the occupants of the house and the loss of the salt. Superstitions about the salt content of electrolytic caustic soda today, may be costing you production economies that can be obtained without fear of upsetting present processes.

Many users have proved that Warner Caustic Soda gives complete satisfaction in every respect. Not only has the salt content been reduced to a percentage that has no deleterious effect but equally important, the iron content of regular production-grade Warner Caustic Soda is consistently held as low or lower than any caustic produced by any method.

Is it possible that you are passing up advantages that regular production-grade Warner Caustic Soda can give you without the penalty of a price premium? We would like to discuss the matter with you as well as submit samples, typical analyses and prices. Your inquiry will receive immediate attention.

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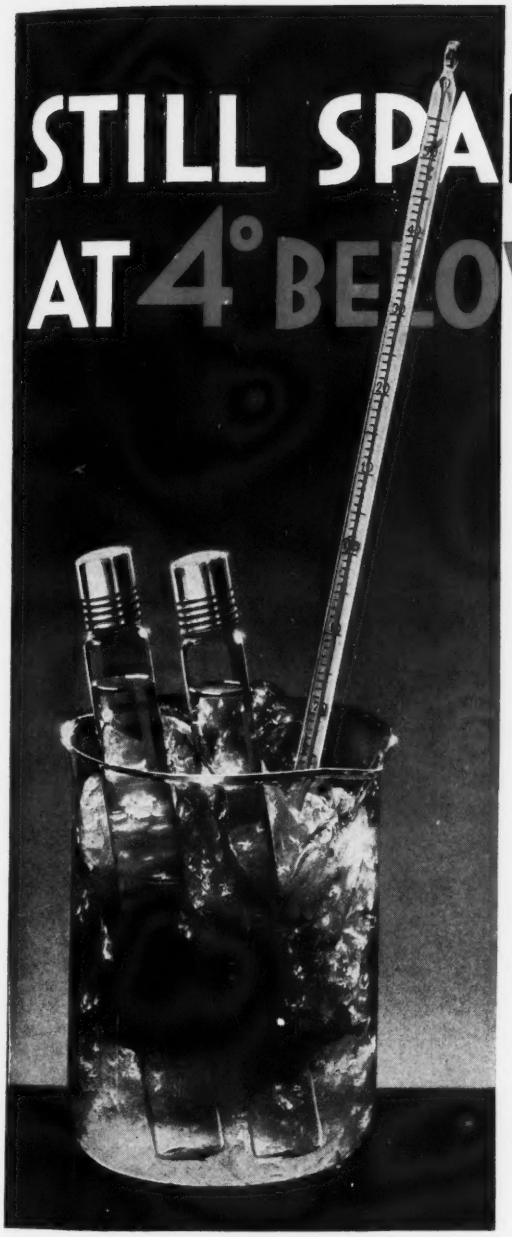

STILL SPARKLING CLEAR AT 4° BELOW ZERO C.!

TRY this test on the liquid soap you are now buying -- particularly the concentrated (40%) which you are using as a base to produce liquids of lower soap content.

"BUCKEYE" and "GEM" concentrate liquid soaps remain absolutely clear at temperatures below zero C., lending themselves perfectly for use at all temperatures as a base in producing liquids of lower soap content.

Just dilute them with distilled water --- no need whatever for any filtering.

Send for samples and prices. No obligation.

THE DAVIES-YOUNG SOAP CO.
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"BUCKEYE" CONCENTRATE and "GEM" CONCENTRATE Liquid Soaps

100 Years of Service

1840 **1940**

Ever since 1840 American business has relied upon the quality and purity of Emery chemicals, the soundness of Emery research.

Now entering its second century of service, Emery Industries continue to adhere to the high principles of production and business ethics that have contributed to the growth of this company and of American industry.

For information or quotations on the products listed below, write us today.

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HAND LOTION

guardian of gracious hands

chosen by a critical eye

. . . pleads for preference by the charm of its package. "To gild refined gold" . . . to convey the message of loveliness through the medium of a glass container is our accustomed art. Owens-Illinois Glass Company, Toledo, Ohio.

OWENS-ILLINOIS

Complete Packaging Service

GLASS CONTAINERS — CLOSURES — SHIPPING CARTONS

How Do You Evaluate the Perfume You Put in Your Product?

There are various ways in which it is usually done.

No. 1 Price per pound.

This can mean about anything. It is no index of value at all.

No. 2 Impression on smelling the oil either from a bottle or on a blotter.

This also is unreliable.

Many oils smell entirely different in the finished product.

No. 3 From the odor of the finished product directly after manufacture.

This also is deceiving as odors change in the finished product with the passage of time.

No. 4 After the lapse of a sufficient period comparable to the time normally elapsing between the product shipment from your plant and its use by the ultimate consumer.

This is the only test. The only value you receive from money expended in perfuming your product is the value at the time of its ultimate consumption.

AROSOL is a universal fixative which insures a more lasting perfume in your product. This has been scientifically proven.

AROSOL is inexpensive and may be used in proportion of from 10 to 20% depending upon the type of odor. Its neutral balsamic aroma permits its use in all types of odors.

It is soap-fast and will not discolor.

AROSOL has been on the market for a number of years and these claims have been fully substantiated.

Its great value has been amply demonstrated by the rapidly increased list of satisfied users.

Requests for samples on your firm's letterhead and further information will be promptly furnished.

We recommend the following for use in Soaps, Fly Spray Deodorants, Air Purifiers, etc.

These are exceptional values—Odors which are infinitely finer than the price would indicate.

Spice, No. 2861
Lily of the Valley, No. 2862
Lilac, No. 2863
Jasmine, No. 2864
Incense, No. 2865
Rose Geranium, No. 2866
Mimosa, No. 2867
Eau de Cologne, No. 2905

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9 S. CLINTON ST., CHICAGO, ILL.
907 ELLIOTT ST., WEST, WINDSOR, ONT.

Syneresis . . .

the foe of

CUSTARD PIE

and

SOFT SOAP

WE are not all lucky enough to have good cooks at home.

Sometimes a housewife bakes a custard, lets it stand, puts it on the table,—and "lo and behold," instead of a shimmering, undulating, yellow mass of quivering deliciousness, the family finds a granular mixture with watery fluid seeping through.

What happened is called syneresis.

Scientifically—a good custard is supposed to make a perfect gel. The gel fibrils enclose the fluid in a firm grasp. On standing, the gel fibrils thicken and contract. If the materials are faulty, or the recipe is wrong, the gel fibrils will not be able to hold in the fluid, and we have syneresis.

Soft Potash Soap is just another form of custard.

How many of us have noted this tell-tale syneresis in a soap that has been standing around.

Causes may be:—

1—Too much water.

2—Inferior vegetable oils used — dark, off colored, high in free fatty acid.

3—Too large a proportion of caustic soda.

Syneresis in soap is a stop, look and listen signal! Good Potash Soaps do not show it.

Clifton Chemical Company

246 Front Street **New York, N. Y.**

Also, all grades fo liquid soaps, liquid soap concentrate, liquid oil soap, pine cleansers.

Next issue will tell you about "pH and Your Pine Cleanser." (What is pH anyway?)

Consult Clifton on your requirements for

- ☐ ***Liquid Soap Base***
- ☐ ***Cocoanut Soap Base***
- ☐ ***Oil Soaps***
- ☐ ***Green Soap***
- ☐ ***Soyabean Oil Soap***
- ☐ ***Linseed Oil Soap***
- ☐ ***Olive Oil Soap***

PROTECTION

JUST as the lighthouses of our coasts stand as guardians of the safety of the mariner, his ship and cargo, so does the COLUMBIA trademark safeguard the interests of our customers.

This symbol of quality on every package of COLUMBIA products is your assurance that the contents fully meet specifications and are of full strength and full quantity. On this secure foundation has been raised COLUMBIA'S growth and reputation. Whether your order is for one pound or thousands of tons, it will receive the most careful consideration and be filled in accordance with all our exacting standards.

COLUMBIA PRODUCTS for the SOAP INDUSTRY

SODA ASH—For saponification of fatty acids, neutralization of glycerine lyes, as a builder for laundry soaps, and as a constituent of soap powders.

CAUSTIC SODA—For all forms of soap products where sodium hydroxide is employed for saponification. The high degree of purity and freedom from iron salts make COLUMBIA Caustic Soda particularly desirable for white toilet soaps. Available in 76% Flake, 400 lb. Drums and 50 and 73% Liquid tank cars.

COLUMBIA

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Plant: Barberton, Ohio
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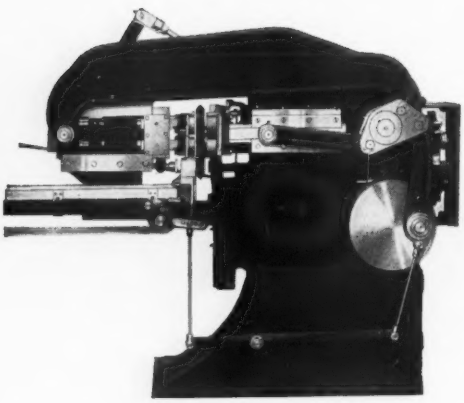
Nice for the Ballroom . . .

But . . . definitely not for a ski run!

There are some aromatics that show up beautifully in a perfume, but they are just not practical for use in soap perfumery. We know these important technical points for we have had years of experience in the creation of fine perfumes for fine soaps. Let us show you what we can do for you.

VAN AMERINGEN-HAEBLER, INC., 315 FOURTH AVENUE, NEW YORK

SOAP PRESSES *Without toggle motion are obsolescent*



Type K Laundry Soap Press

JONES *toggle motion* PRESSES

produce a more gradual pressure than any other means and prevent the cracks so frequently found in cakes stamped by a sudden blow.

Gradual Toggle Motion pressure gives soap time to adapt itself to engraving and other die recesses and brings out clear, sharp letters and designs.

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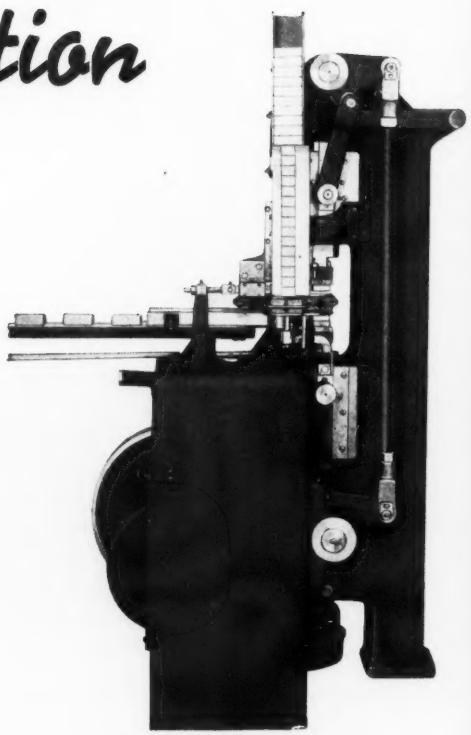

Type ET Toilet Soap Press

R. A. JONES & COMPANY, Inc.

P. O. BOX 485 CINCINNATI, OHIO

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds, and inserts direction sheets and corrugated board liners with the loads.

As the Editor sees it..

ALL TOLD, the soap industry had a good year in 1939. We judge this from published reports of the larger companies and private advices from a number of smaller ones. Soap sales were up appreciably, and so were profits. But there were quite a few extenuating circumstances, a war in Europe, for example, during the last four months of the year. Nevertheless, the opinion is quite generally about that the present-day soap business is a veritable bonanza,—and there are lots and lots of people who crave to acquire a soap factory and its attendant juicy profits. Some of them have called on us to find out how to get into soap manufacture quickly and painlessly, and without capital if possible. They gloss over the fact that their knowledge of soap is confined to its use now and then. Most of them would not know a crutcher from a beer pump if they saw these side by side. But they still insist that they could learn. And this goes on, and on, and on. Our sarcasm cannot bite through their leathery stupidity,—just wasted words. Probably nothing short of a few widely heralded bankruptcies in the soap industry right now could convince these aspirant soapers that we are not deliberately trying to steer them away from an easy-money proposition so that we can save it all for our friends.

THE PRINCIPLE that a state or municipality has the right to tax "imports" coming into its territory was upheld in a decision of the U. S. Supreme Court last week. In approving the constitutionality of a sales levy on articles bought outside of a state and shipped into that state, the Supreme Court reversed a prior decision of the New York State Supreme Court. Coming as it does at a time when feeling against all sorts of barriers to the free flow of interstate commerce is bitter, this decision of the highest court in the land is indeed a shock to many manufacturers.

The City of New York sued to collect a two per cent local sales tax on coal bought in Pennsylvania and shipped from that source, and the U. S. Supreme Court held that the city could do just this, even though the New York courts had previously ruled otherwise. That the decision is liable to have far-reaching effects is obvious. It definitely establishes a principle in state and local taxation which is very likely to open further than ever the floodgates of new levies,—and offers the opportunity for a multiplicity of new barriers to those already blocking the highways of interstate commerce.

WIDESPREAD are the new efforts under the direction of the National Association of Manufacturers to establish the principles of good health and to encourage more healthful working conditions in industry. The promotion of hygiene and good health in plant and factory was begun by a committee of that association some two years ago, and the work has gained much momentum since that time. Health, cleanliness, sanitation, disease and accident prevention,—all are tied in closely with the campaign. To sell these ideas not only to the workers, but to plant owners as well, is the aim.

We see a rather close tie-in of bodily cleanliness of the workers, and clean and sanitary factories with the sale of the materials to accomplish this,—soaps, cleansers, disinfectants, and other products of sanitation. We see an opportunity for supplies of

these materials to "hitch their wagon to a star," the star of the National Association of Manufacturers, and aid very materially in the drive for more healthful working conditions. And if interest is aroused in the breast of our industry, we feel certain that the Committee on Healthful Working Conditions of the above association, located at Fourteen West Forty-Ninth Street, New York, will be glad to cooperate.

FROM a chemist who has studied the use of shampoos at close range in beauty soaps, comes the opinion that too many shampoos do not rinse freely from the hair. This is particularly true in the case of numerous soapless shampoos, it is pointed out, and is the fault which damns more shampoos in the beauty shop trade than any other. Shampooing the hair is usually the first operation in a beauty salon preceding waving, setting and other operations. If the shampoo does not rinse readily and completely, it either delays the operator unnecessarily or leaves a residue which interferes with the quality of subsequent operations. This chemist believes that many a shampoo is rejected in beauty shops for this cause without the shampoo manufacturer knowing the full facts. He recommends that manufacturers, particularlay those of the soapless type, look more closely to this characteristic of their products,—all of which is advice that may be quite opportune today.

REPORTS that some of these so-called "consumer" organizations have been getting in the hair of manufacturers, are no surprise. Recent charges that they are vicious and communistic are not new and are naturally to be expected from manufacturers who have been stung by their criticism. We have read any number of bulletins issued by these "consumer" groups, and we do not blame manufacturers for getting sore. As far as we have the knowledge to judge, that is, in matters wherein we have felt well enough informed technically, we have found many of these bulletins to be inaccurate, incomplete, and wholly designed for public consumption.

Rarely have we found in these reports presentation of the full and unbiased facts. Low price of any product is apparently its chief recommendation, irrespective of quality. The advice given is in our opinion generally of little practical value and the recommendations in some instances are such as to arouse suspicion that said recommendations may not depend solely upon merit. All told, these "consumer services" appear superficially to be quite honest and open, but closer study long ago aroused our suspicions that they comprise a neat little racket for those on the inside.

IN A newspaper "health" column conducted by a physician, some rather startling statements were made recently in regard to insect control, statements which will be quite a shock to insecticide manufacturers and pest control operators. "To get rid of bedbugs, fumigation by sulphur is the most practical way." Shades of the Gay Nineties! But this is only the beginning. The doctor goes on to recommend a shampoo of mixed kerosene and vinegar for head lice, and sodium fluoride for roaches, which is fine if he had not continued to say, "which is harmless to man and animals."

With the U. S. Public Health Service getting quite excited about dermatoses from petroleum insecticides, and state and local officials becoming ever more strict in regard to the use of fluorides and other toxic materials, these comments and recommendations by the doctor-columnist seem to be slightly at variance with present-day informed opinion. And there is apparently no way to stop this sort of thing. Maybe the new Food, Drug & Cosmetic Law should be extended to cover these writers of so-called health "news" who in syndicated columns all over the country publish misleading information which is a menace to the public health.

SOAP STABILIZATION

Comparative value of thiourea derivatives in retarding rancidity and discoloration

By R. L. Sibley

Monsanto Chemical Co.

DURING the past thirty years a large group of investigators have been stimulated by the original investigations of Moreau and Dufraisse to study the effect of oxygen on many organic products. Although an appreciable volume of research investigations has been published relating to the work completed, relatively few commercial applications have been made of the use of chemical compounds to prevent or delay the adverse effects of atmospheric oxygen on various materials. The outstanding example of the use of antioxidants is in the rubber industry where it has been common practice for several years to employ such protective agents in all except the lowest price articles.

Fats and oils oxidize to varying degrees on storage to produce in many instances odoriferous by-products. Moreover many products manufactured from fats and oils are likewise adversely affected by air or light or by the coaction of both to produce undesirable effects or form reaction products that affect at least the aesthetic value of the manufactured product. The cheaper grade laundry soaps while frequently developing some rancidity, usually fail to show the full effects of such action due to the color of the soap or the nature of filler employed.

Although the tendency of a soap to oxidize may be shown by the shelf aging of the product at room temperature, this is a relatively slow process and requires several months for the change to be apparent. A quicker and equally reliable test consists in testing the soap in an oven at elevated temperature and observing the period required for the soap to develop sufficient rancidity for the odor to be noticeable. Although the test is only qualitative and the relationship between the rate of oxidation at room temperature and that of the test is not known, still the results obtained are characteristic and reliable. By observing for example, the time period required for an untreated soap to develop rancidity and the period for a treated soap to develop odor, the effectiveness of the added treating agent or antioxidant may be demonstrated. In the tests that follow, the soaps were kept in an oven at a temperature of 50° C. and tested daily for development of odor until rancidity was evident.

In order that a suitable product might be employed in the experimental work, a substantially neutral soap was prepared by saponifying a mixture of three parts of edible tallow and one part of coconut oil with the required quantity of sodium hydroxide. There was then incorporated into different test portions of the soap by any suitable means, 0.1 per cent by weight of the various antioxidants under test. These stabilizers can be readily mixed into the soap by mechanical working of the soap or by adding a solution of the materials. Five grams of the treated soap were then placed in a 250 c.c. glass stoppered flask, and a piece of filter paper saturated with water was torn into small pieces and added to the soap in the flask. The flask was tightly stoppered and placed in an oven maintained at a constant temperature of 50° C. Each day the color of the soap under test was observed and the stopper removed and the odor of the soap noted. The test for each individually treated soap was discontinued as soon as any characteristic rancid odor developed. A soap made as described but containing no added stabilizer served as a control.

Among the many classes of products tested as stabilizers, one group of materials exhibiting particularly favorable properties as soap antioxidants are the thioureas described by Martin in United States Patent 2,154,341. The thioureas described were prepared by the recognized procedure for such compounds. Thus, the symmetrically substituted thioureas were prepared by the reaction of carbon disulfide on the primary amine while the unsymmetrically substituted thioureas were obtained by the reaction of a primary amine with phenyl isothiocyanate. The results of the rancidity tests carried out as described are shown in the following table:

	Period of stability in days
Blank (no stabilizer)	3-4
Thiourea	6
s-diethyl thiourea	14
s-dibutyl thiourea	14
s-di-allyl thiourea	12
s-di (β hydroxy ethyl) thiourea	20
s-diphenyl thiourea	18
s-di-o-tolyl thiourea	21
s-dixylyl thiourea	17
s-di (β naphthyl) thiourea	14
s-di benzoyl thiocarbanilide	14
mono acetyl thiocarbanilide	14
s-di (o-biphenyl) thiourea	18
s-di (p-biphenyl) thiourea	24
s-di benzyl thiourea	11
s-di cyclohexyl thiourea	18
s-di (2, 6 dimethyl phenyl) thiourea	12
s-di (o-phenylene) thiourea	20

s-di (o-ethoxy phenyl) thiourea	20
s-di (o-chlorphenyl) thiourea	24
s-di (p-chlorphenyl) thiourea	19
s-di (p-fluoro phenyl) thiourea	40
s-di (p hydroxy phenyl) thiourea	7
triphenyl guanyl thiourea	21
tri o-tolyl guanyl thiourea	21
o tolyl phenyl thiourea	13
phenyl cyclopentamethylene thiourea	13
a (*β* hydroxy ethyl) *β* phenyl thiourea	17
a a di (*β* hydroxyl ethyl) *β* phenyl thiourea	19
a phenyl *β*-p-phenethyl thiourea	21
a o-cymyl *β*-o-tolyl thiourea	21
ethylene diphenyl thiourea	18
a di acetone *β* phenyl thiourea	12
a (*β* hydroxy ethyl) *a* benzyl *β* phenyl thiourea	12
a ethyl *a* phenyl *β* phenyl thiourea	12
a (*β* hydroxyl ethyl) *a* phenyl *β* phenyl thiourea	18
Thiourea from 4.4' dichloro 2 amino biphenyl	15
Thiourea from 2 chlor 4' amino biphenyl	27
Thiourea from 4 chloro 2' amino biphenyl	27
Thiourea from 2-4 diphenyl aniline	16
N phenyl N' p-biphenyl thiourea	24
N phenyl N' cyan thiourea	30
N phenyl N' cyclohexyl thiourea	32
N phenyl N' (p-butyl phenyl) thiourea	20

Although thiourea itself is comparatively weak as an antioxidant against the development of rancidity in soap, the substituted thioureas as a class are materially enhanced in activity. In fact, of the 43 thioureas shown in the table, all are superior to thiourea in respect to antioxidant properties, and all are superior to the untreated blank. In general it appears that the aryl substituted thioureas are somewhat superior to the alkyl substituted thioureas as soap antioxidants. Furthermore there is some indication that substituted groups present in the aryl group further improve the antioxidant properties of the compound. Apparently in the case of such substituted groups, one containing an ortho substituent and preferably a negative or acidic ortho substituent is most favorable. However, the data are hardly complete or certain enough to justify any reliable generalizations and the only safe thing to do is to determine the effectiveness of any product by actual test in preference to depending on any theory. Since many urea compounds and derivatives tested in like manner failed to show any outstanding properties in soap it does appear that the sulfur atom present in the thiourea plays some major part in the preservative action. However, this is not a generally inherent property of the sulfur atom since other types of sulfur containing compounds proved of no particular value in preventing the rancidity of soap.

Although other types of test have from time to time been proposed for determining the period of the development of rancidity in soap it is thought that the oven test employed most closely simulates actual commercial conditions. The soap under test not only was tested for odor but was also examined closely for any development of color. Most of the thioureas mentioned previously appeared entirely satisfactory in this respect as they either developed no color in the soap during the progress of the test or at the most produced either a pale yellow or cream color. Additionally the effect of the thioureas on the soap was examined further, either by exposing a small cake of the treated soap to 100 hours of sunlight or by exposure for 24 hours under an ultra violet lamp. In no instance did darkening of the soap result and in those cases where any color was developed, it was not more than a pale cream or yellow color.

A more exact chemical test such as for example the peroxide test was proposed by D. H. Wheeler* as suitable for investigations of this type. This test is carried out by aging as described previously a sample of oil containing 0.1 per cent by weight of the material under test. At twenty-four hour intervals a 5 gram sample of the aged oil was weighed accurately and diluted with 50 c.c. of a mixture (60-49) of glacial acetic acid and chloroform. Then 1.0 c.c. of saturated potassium iodide solution was added and the flask well shaken and allowed to stand for exactly 1 minute when 100 c.c. of distilled water were added. The mixture was then titrated with N/100 sodium thiosulfate solution using starch solution as an indicator. The number of c.c. of thiosulfate solution required is taken as the peroxide number of the oil. In the tests below in which thioureas were so tested cottonseed oil was employed.

Test Material	*Days*	*Peroxide No.*
Blank	0	10.5
Blank	4	22.3
a (*β* hydroxy ethyl) *β* phenyl thiourea	4	0.4
s-di (*β* hydroxy ethyl) thiourea	4	18.7
s-di (o-biphenyl) thiourea	4	0.5
s-di cyclohexyl thiourea	4	2.5
s-di (2-6 dimethyl phenyl) thiourea	4	0.8
s-di N butyl thiourea	4	24.5
s-di ethyl thiourea	4	15.0
s-di (o-phenylene) thiourea	2	15.0
s-di xylyl thiourea	4	0.8
s-di (o-chlorphenyl) thiourea	4	5.9

While it appears that the thioureas as a class are effective in delaying the development of rancidity of cottonseed oil, yet the order of effectiveness as determined by the peroxide test does not appear to be of the same degree as that shown in the organoleptic test described. Assuming that the oven test more closely approximates actual commercial conditions, the results of this test may be indicative of the results to be experienced in practice.

The general conclusions of the work shown herein can be summarized concisely by stating that thioureas as a class protect soap against deterioration resulting from oxidation and further stabilize the soap against discoloration in light. In both instances the periods of stability at atmospheric conditions are materially extended. In any event practical tests are recommended in order to select the product most suitable for the purpose intended.

* Oil & Soap, 1932, 9, 89.

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A method and apparatus are described for continuously splitting animal and vegetable fats into fatty acids and glycerine by the use of three pressure zones without the addition of splitting agents. Erich Hoffmann. German Patent No. 677.957.

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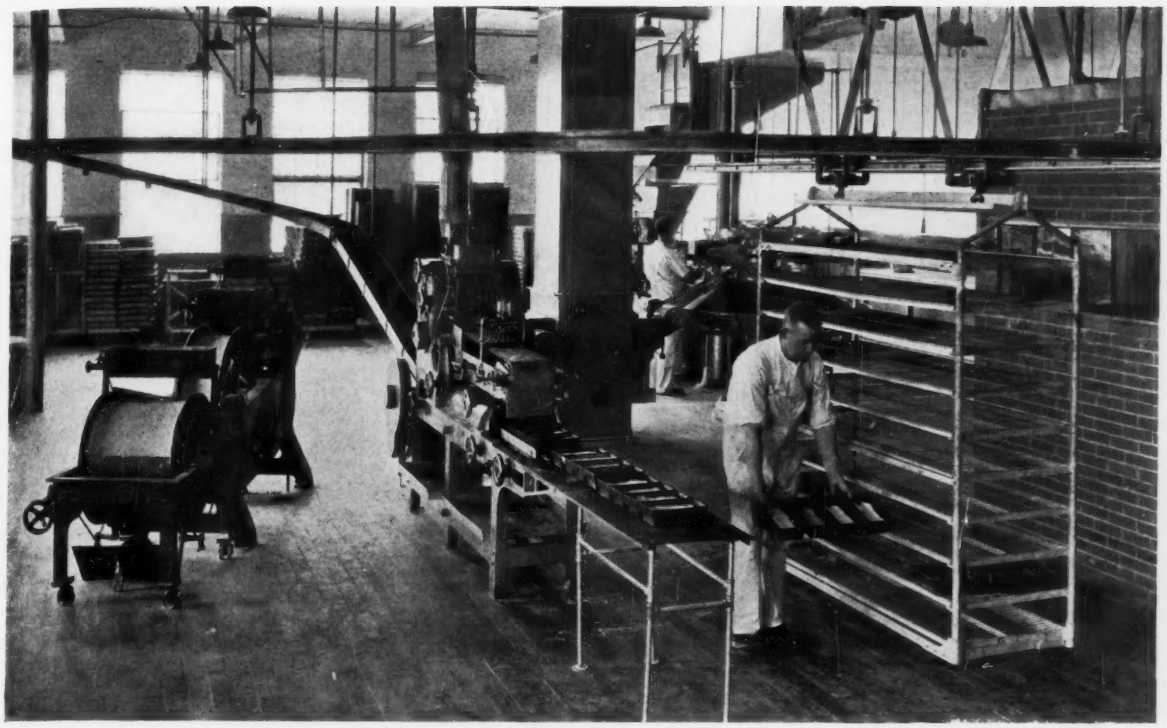
The oils are first treated in a deaerating stage at a slightly elevated temperature and in a vacuum, and then in a second stage at a higher temperature with or without steam-stripping, to remove volatile constituents. Foster Wheeler Corp. British Patent No. 505 810.



Courtesy "Bakers' Weekly"

JANITOR SUPPLIES . . . for Foodstuffs Plants

(PART II)

SANITATION isn't a matter of preference or personal fancy in the baking industry. The purchase of the right type of soaps and sanitary chemicals and their efficient application is absolutely vital to the baking plant because their workmen are dealing in all their operations with edible, perishable products. Let the maintenance department fall down on the job of keeping plant and equipment in 100 per cent sanitary condition, and the results will soon be evident in an epidemic of "mold" or "rope" in the baked products. This seems to explain why leading bakeries constitute such a steady and well informed market for sanitary products, why they are willing to listen to new ideas on cleaning, but always insist on checking and double checking any new material before they put it to use.

One of the chief problems confronted by bakers is the cleaning of bread pans, especially in plants where automatic equipment is used. When new pans are bought, they are put through an oven several times to give them a good coating of tin oxide which, in the baking operation, facilitates the easy removal of the bread from the pan. However, if caustic soda solutions or other strong alkalies with a pH of around 10 or 11 are used to clean the pans, and some bakeries reported doing so, this coating of oxide is removed, with the result that the bread, when coming from the oven, sticks to the surface of the pan and is difficult to remove.

When automatic equipment is being used, the problem becomes even more serious as the delayed bread removal acts as a "bottle-neck" and prevents continuous running of the equipment. Therefore, a detergent that does not remove the oxide coating is essential for the cleaning of tin bread pans, and a cleaner that has an inhibitor in it to prevent detinning of the pan is indicated. Some bakeries state that vegetable oil should be applied to the pans before the bread dough is placed in them, and if this is done, the oil leaves a coating when baked. A production man from one of the large metropolitan bakeries recalled the time when strong alkalies were being used to clean bread pans. The bread sticking problem became so acute at times, he said, that the men in the plant were actually afraid

to clean the pans, fearing a serious delay in production.

Another baking problem claiming a large share of attention is the prevention of mold on bread, cakes and rolls. In some bakeries, a hypochlorite solution is sprayed on the equipment, but because of its corrosive nature and odor it is objectionable to use on belting, cake belting especially. Then too, bakers are afraid that appreciable quantities of the material might get into the baked goods themselves. Probably the best means for preventing mold is the use of a proprionate salt solution which is innocuous. The procedure, as outlined by one production man is to spray a solution of these salts on and about wrapping machines and other areas where mold is likely to develop, and in some bakeries, he added, dry powder is thrown into corners and crevices.

"A few years back," said another baker, "mold was noted from time to time on cake which was sent out on our trucks, and upon investigation, we found that the mold resulted from contact of the cake with the fingers of the girls doing the wrapping. To overcome this," he continued, "a container of proprionate solution was placed at each wrapping table and the girls were required to wash their hands in this. We still use that procedure where wrapping is done by hand."

For mixers, sifters, kneaders and other bakery equipment, various bakeries report using trisodium phosphate, soda ash, sesquicarbonates, caustic soda solutions and scalding water. The cleaning of aluminum-ware is a problem that requires more care, as the use of alkaline cleansers, such as soda ash, reduces the life of the metal. Once the smooth finish of the aluminum-ware has been destroyed by using the wrong type of cleanser, it cannot be replaced.

One bakery reported using a white milled flake soap product with an anhydrous soap content of about 50 per cent. This seems to be the general cleanser for aluminum in other foodstuffs plants. The product is sometimes built up with added detergents such as sodium silicate, sodium metasilicate and sodium carbonate, as needed. White mineral oil is used on equipment and trays in some bakeries as a rust preventive much the same as in packing plants.

For the general cleaning of floors, walls and machines in bakeries, the choice of a cleanser seems, on the whole, to be a matter of individual preference. One large bakery makes up its own cleaning compound of trisodium phosphate, metasilicate and soda ash, the exact proportions of each being specified by the company's laboratory. Another bakery reports using a causticized ash solution (10 per cent caustic soda with sodium carbonate) for heavy cleaning, such as on cement floors. For the lighter cleaning of wooden floors and walls, a straight chip soap is used, other detergents being added, depending upon the cleaning job. The same company uses sesquicarbonates and modified sodas for washing painted surfaces, the choice here being dictated by the necessity of avoiding strong alkali which might harm the paint.

Still another production man said that his company made wide use of a straight trisodium phosphate solution in conjunction with an electric scrubbing machine for cleaning its floors. In several kosher bakeries visited, the use of soaps in the bakery is not permitted. These bakeries as a whole use cleaning compounds composed of trisodium phosphate and soda ash.

The use of sweeping compounds in baking plants seems to be limited. No particular reasons for not using them were offered by any of those interviewed, except perhaps, that fire insurance regulations in some areas prohibit the use of sweeping compounds with an oil base. For the most part, wet sawdust is the medium used for laying the dust, while in some cases, the bakerymen just sweep with a stiff broom. One of the larger metropolitan bakeries makes up its own mixture composed of sawdust, calcium chloride and water.

As is the case with meat packing houses, bakeries seem to be evenly divided between those which do their own exterminating work and those which hire exterminating companies on contract. Some bakeries buy regular powder and paste insecticides in prepared form and use as needed in the control of roaches, ants, etc. Other baking plants report that they make up their own sprays from concentrates, diluting the material according to suppliers' recommendations. The chemist at one bakery said that his company attacked the roach problem at its source. "Roaches once noted," he said "are firmly entrenched, and the use of roach pastes, powders and sprays may kill some, but will not remove the source. Therefore, we rip out and repair all bad areas, crevices, cracks, etc., where roaches can breed and live." This same bakeryman said that all poisonous substances are barred from use in their bakeries, and mentioned fluorides in particular. Pyrethrum powder and sprays find extensive use in this plant, he stated.

A cleaning operation not immediately thought as typical of the baking industry, but one that claims a large share of attention, is the cleaning of bakery trucks. Back in the days when bread, cake and other bakery products were normally sold unwrapped, it was just as necessary to see that the bakery trucks were kept clean as it was to assure clean conditions within the bakery itself. Today, with almost all products wrapped, this may not seem so important, but progressive bakeries place as much stress as ever upon this operation. The cleaning materials used on the insides of trucks vary according to individual choice. Straight chip soap, dilute solutions of trisodium phosphate and soda ash are all used to some extent. On truck bodies, neutral soaps are used to a large extent as they will not harm the varnished surfaces. "Of late," said one bakery representative, "sulfonated oil preparations have been substituted for soaps, but although they give a good gloss to the surface, their use must be carefully regulated and they require rigid supervision in application."

The average baking operator, to judge from interviews with them, seems thoroughly willing to listen to what the sanitary supply salesman has to offer in the way of a sales talk, since the maintenance of plant sanitation is of unusual importance. His attitude toward the salesman, if we can judge by our impressions, seems at best to be one of cautious skepticism. Amusing is the following account of one bakery purchasing agent:—a salesman had come to him with a new and "different" cleaning compound, and to show its effectiveness had rubbed some on the purchasing man's desk, which immediately sparkled. Then to show its harmlessness, the salesman rubbed some of the compound on his cheek. The next day the desk was minus the varnish and stain where the cleaning solution had been rubbed, and the purchasing agent wondered if the salesman was minus the skin on his face.

The larger bakery units are buying their janitor supplies only after they have been tested under their own supervision. The purchasing agent of one firm said that he just does the buying. His laboratory tells him what and how much to buy. Cleaning, he said, is essentially a production operation and the purchasing department does not give it too much thought. If he, the purchasing agent, thinks the salesman has something of value, he obtains a sample and sends it to the laboratory. Their's is the final decision.

For the important cleaning problems in one of the large bakeries with many branches, the main laboratory specifies the type of cleaning that should be done and also what cleaning materials must be used. For the minor cleaning problems, however, the individual plant superintendent decides what to use at his own discretion. By important cleaning operations, said the representative of this baking company, is meant the cleaning of pans, automatic equipment and other expensive items of machinery. "For if we did not specify to the men what to use and how to use it," he said, "the equipment might be ruined in a compartively short time by use of the wrong materials."

This same baking company buys cleaning compounds with an "open mind," looking for the material that does the best job at the lowest cost. However, this production man said, effectiveness is not sacrificed for cost. Changes in the type of cleaning materials used are not resisted, he said, for if a salesman can show them something that does a better job at a fair price, they will adopt the new material.

Still another bakery divides its cleaning operations into three parts: (1) heavy cleaning for floors, walls, garages, etc., (2) light cleaning for floors, walls, etc., and (3) cleaning of utensils, tin pans, aluminumware and other equipment where special care must be taken in the choice of cleanser. For the first two items of cleaning, this company thinks one detergent is as good as another and that it is a matter of individual choice. However, the company does set up certain "musts" and certain "don'ts" for the men to follow in their cleaning operations.

The choice of janitor supplies, said one bakery operator, is dependent upon the cleaning problem, the cost of the material and the person who is going to use it. The calibre of the men handling these materials plays an important part, he continued, for in the hands of some workman, these materials may become dangerous. It is all right, he said, for the chemist in the laboratory to specify the use of fluorides, but it is altogether a different matter if the application of this material is in the hands of a person ignorant of its dangerous qualities.

CANNING plants constitute another major market for janitor supplies. There are approximately 3,000 canneries in the United States which process and pack about 9,000,000,000 units of prepared and semi-prepared food products. Canning is thought of as a seasonal operation, and canneries, as a rule, are situated in the midst of the farming areas. In past years, canneries were operated only during the harvest season of the one particular food product that was being canned. Naturally, the period over which these canning plants were potential buyers of janitor supplies was limited. However, canneries now operate over a good portion of the year, from early spring to late fall, and are so located that when the harvest of one food product is finished they are in a position to start operations on another. Accordingly, the period during which they are in the market for janitor supplies is also lengthened.

The chief cleaning problem confronting the canning industry is the removal of bacteria and food residues from machines, inspection tables, etc. Due to the extreme heat used in canning operations most bacteria are destroyed, but thermophyllic bacteria (heat-loving) are not affected by the high temperatures. It is essential, therefore, that these bacteria be destroyed and their source removed. If this is not done effectively, spoilage is inevitably the result, and as spoilage of food is a costly item, it is only natural that the canning industry places much stress upon its cleaning operations.

Cleaning in canneries is essentially the removal of excess food and other organic matter from machines, floors, walls, etc., as that food supply supports bacterial growth. Cleaning operations, of course, are done in conjunction with sterilization by means of steam or hypochlorite solutions. Equipment manufacturers, acquainted with the problem, are trying to help cleaning operations by making equipment with a minimum of cracks, crevices or other surface irregularities in which food might lodge and so make cleaning difficult.

Trisodium phosphate, sodium carbonate and soap powder seem to be the most common detergents used by the canning industry for cleaning operations on floors, walls, machines, tables and utensils. The use of caustic soda solutions is definitely limited in canning plants, as there is always the possibility of those materials coming into contact with the foodstuffs

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WASHROOM LAYOUTS

Planning the washrooms for the modern industrial plant, including selection of sanitation facilities, and choice of soaps

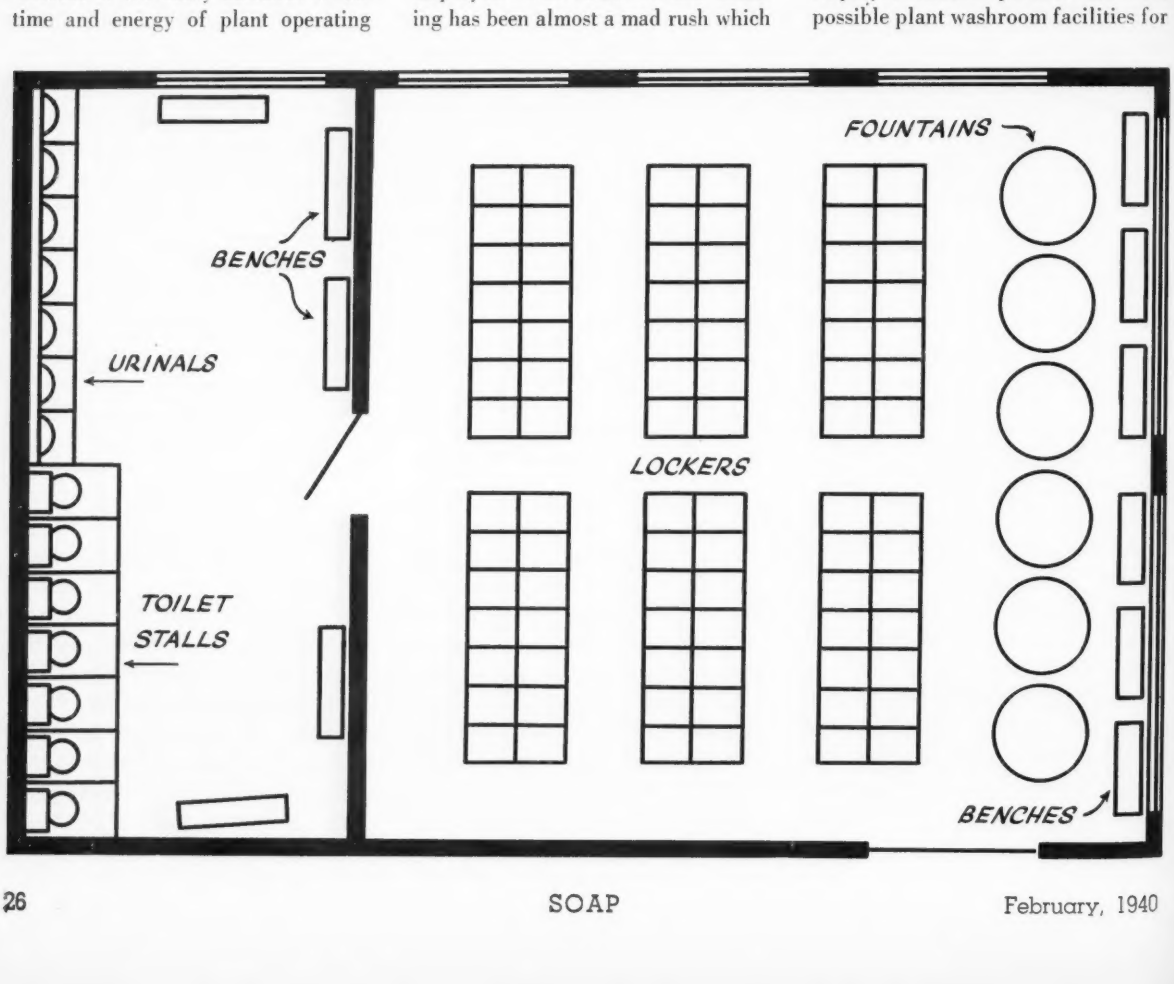
By Edward N. Andrews

Sugar Beet Products Co.

DURING the past twenty years, industrial expansion in the United States has been so rapid that, in an attempt to gear production equipment to the demand for its goods, industry has had a sprawling growth that has almost completely overlooked plant improvements that could be put off until a later day. The plant washroom is one thing which has suffered directly as a result of this growth. Because of the heavy demands on the time and energy of plant operating and maintenance men, frequently little thought has been given to providing modern sanitation facilities for plant employees. Plant washrooms which were once adequate have in numerous instances been made obsolete by the growth in industrial employment.

One of the good things that came out of the recent depression was the opportunity it gave to plant operating men and executives to sit down and consider the welfare of the employee. The result of this thinking has been almost a mad rush which is gaining impetus every day, to provide for the health and welfare of the industrial worker. Today, although many manufacturers have placed plant sanitation facilities on a par with their modern production equipment, the sad fact remains that where one firm has taken steps to improve conditions there are probably ten who have so far done nothing.

There are a number of very good down-to-earth reasons why an employer should provide the best possible plant washroom facilities for



View of wash fountains and soap dispensers at the plant of the SKF Industries in Philadelphia. Each fountain accommodates five men. Floor plan of the same washroom on opposite page.

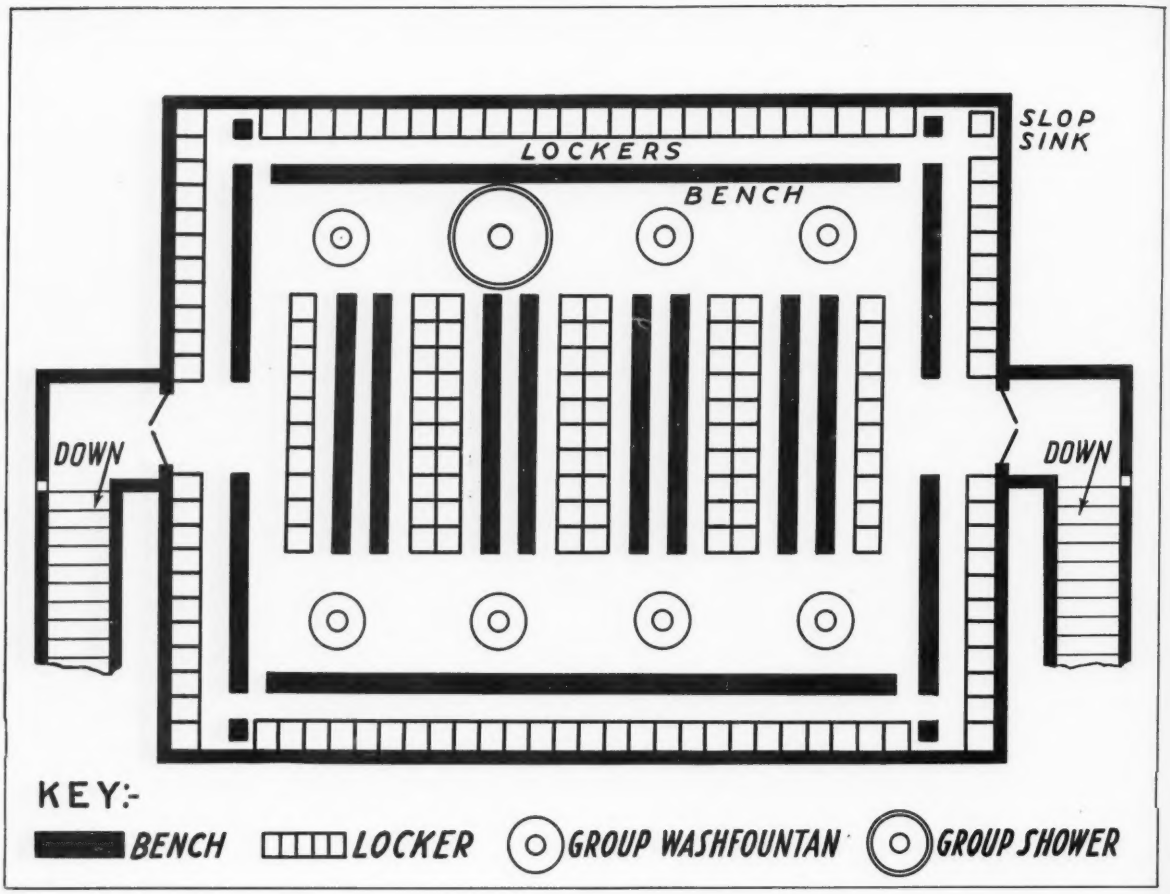
his workers, reasons which have a direct bearing on profits, and which are aside from the obvious humanitarian features involved.

These reasons can be summed up in a few words: employee health, productive ability, and attitude. It hardly need be argued here that the health of the employee is essential to the success of any industrial venture. If a glaringly unhealthy condition exists in one department of a plant, it is not long before lost-time compensation cases begin to add dollars to the cost of the department's production. Since it is quite well established that employee cleanliness and hygiene are two important factors in the prevention of occupational disease, and because most states now have broad, fair, well-enforced laws protecting the employee against occupational disability and disease, it has become of vital importance that the employer provide modern washrooms where cleanliness may be practiced.

To prove quickly the point that an employee's productive ability is directly dependent on his health, and on the condition of his body, we need only ask you how efficient you are at tying your own shoelace when your thumb is bandaged because of a cut or a burn. An employee with sore, irritated, or chapped skin is equally as inefficient in the performance of his work. Such conditions exist to a smaller extent where modern washrooms are handy to provide proper soap and water for washing, because cleanliness, when practiced with the proper materials, will help maintain the skin in a healthy condition. The healthy worker does better work and more of it.

As to employee attitude, or morale, it is certainly true that a man does not cease to be a human being just because he has a job in an industrial plant. His reaction to good treatment results in friendliness and good will towards his company. Modern plant washrooms have become almost a symbol of management's attitude as far as the employee is concerned. A modern plant deserves modern plant washrooms and all that goes with them, and the employee who has such facilities at his disposal is certain to be a better employee just because the washrooms are modern and adequate. From the foregoing, it is apparent that the importance of the modern industrial plant washroom in promoting employee health, a better product, and a more loyal, better-satisfied staff of workers cannot be stressed too strongly.

Having determined the need for either building new washrooms, or for modernizing present facilities, look now at the requirements for the modern plant. Since it is obviously impossible to provide a washroom for each and every employee in a plant, and since washrooms are likely to be very crowded before and after



shifts and at lunch hour, it is best to think of washroom planning in terms of employee traffic. Since it is the object of every modern plant washroom to handle its traffic as smoothly as possible, and without delay so that the use of the washroom's facilities will not be discouraged by forcing the employee to wait his turn, the problem of planning becomes a problem in the efficient handling of workers at peak periods of washroom use.

If the washrooms are properly planned they will require less equipment to serve a given number of employees, and for this reason considerable savings can be effected if a few basic rules are closely followed.

A plant washroom should be located immediately adjacent to the department it serves, and should be on the same floor level as the department. If traffic is to be heavy at peak periods, consideration should be given to providing a separate entrance and exit. Washroom (including shower and locker room) floor space should be figured on the basis of 10 *square feet for each employee* on a shift who will use the room.

Too much importance cannot be placed on the need for making the washroom more than adequate for present-day needs. Since the prime reason for the installation of modern washrooms is to encourage personal hygiene and protect employee health, every effort should be made to avoid crowding at rush hours. Everything should be done to encourage use of the facilities rather than discourage it. In one plant, the installation of modern washrooms and up-to-date equipment and services was coincident with a reduced attendance at the company's hospital by over 70 per cent. This reduction in hospital attendance is enough to save the company sufficient money to cover the cost of the whole washroom improvement program in less than five years.

Where it is practical, the so-called central washroom is a good idea, providing a central location, approximately equidistant from all departments on a floor, is available. But a central washroom should be considered only if all employees are engaged in quite similar work. For example a central washroom is a fine thing in a cigar plant where all employees operate similar machines, but it would be exceedingly bad practice to have one washroom serve the foundry, the screw machine department, and the light assembly room in a machinery factory. The reason for this is that the problem of employee cleanliness is so different in each of these departments that they would be far better served by each having their own smaller washroom. (Foundry employees need showers; screw machine operators often use protective creams; light assembly workers use different types of soap, etc.)

Physical factors also play an important part in the selection of a

location. Drainage facilities are to be considered, since every washroom must hook up with the sewer, and this must be both adequate in size and reasonably near the washroom to permit inexpensive installation. Washrooms must be heated and should be located within range of the central heating system unless gas-fired unit heaters are to be used. A plant washroom must have at least one exterior wall or else be of single story construction for ventilation purposes. An accompanying illustration indicates the use of skylights in a foundry washroom. This is a very good idea as the light is well distributed in the daytime, and ventilation is no problem, as the skylights can be raised and lowered for this purpose. In practically all cities a health code dictates the form the washroom shall take by making certain features mandatory. It should be noted that these laws should be closely followed in washroom planning, and when specifying equipment for installation in the washroom, such equipment must be manufactured to conform to local ordinances and laws.

Most industrial washrooms today include the locker room, and for the very good reason that this further encourages the practice of cleanliness at the close of work so an employee may change to his street clothes. If the locker room is not in the same room as the washroom, it should be located immediately adjacent.

Now to determine the location of the proposed washroom, and decide what factors must be borne in mind while planning the finished layout. This layout consists of the proper arrangement of the various washroom facilities so that washroom traffic may be handled with maximum efficiency.

First arrange to provide locker space for the workers. For most plants the double locker is best because it provides ample room for the worker's clothes and at the same time conserves space,—that is the type with one locker above and one below. Each employee will be provided with his own locker which will preferably be operated with a combination lock rather than one which requires a key. Working clothes especially require good ventilation and the lockers selected should have an ample number of louvres of sufficient size to provide good circulation of air. Hooks on the inside should be so arranged that clothes are hung separately rather than in contact with each other, as this latter method will prevent air from reaching all garments. In a plant in Connecticut where the men work on polishing machines and grinders, they are provided with clothes hangers with a hook on one end and a long handle which permits the clothes to be hung high in the air on long rods which ran the length of the locker room. These same workers have their own lockers in which to store their street clothes.

In locating windows in the plant washroom it is well to place them high on the walls, leaving all possible wall space unobstructed so that lockers may be installed against the walls. This is the arrangement in the washroom of the Falk Corporation, as shown in the accompanying photograph and floor plan. Common practice is to arrange lockers in rows,

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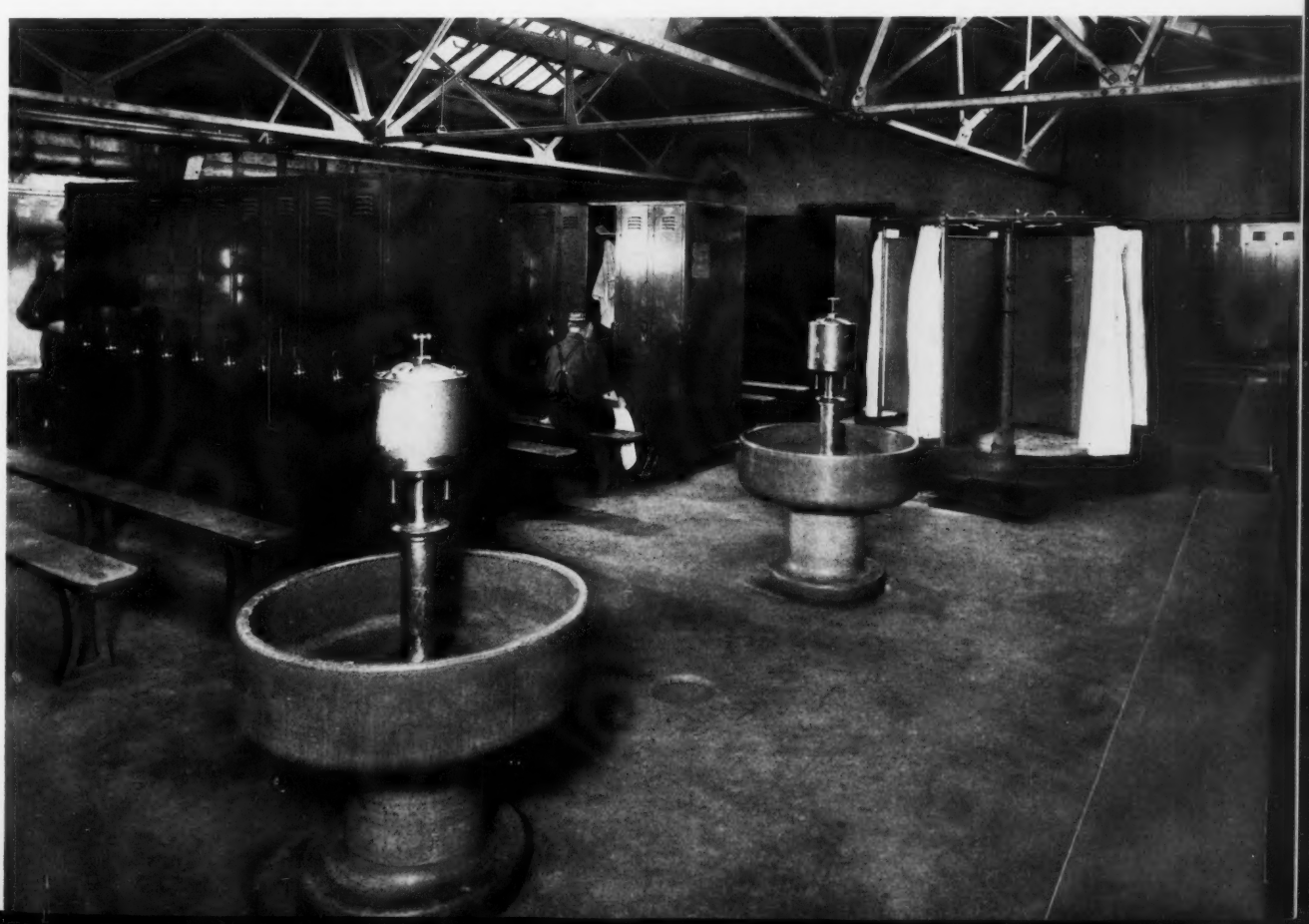


Wash fountains and showers in the foundry washroom of the Falk Corporation of Milwaukee. Note five-stall shower. Diagram of this washroom complete shown on opposite page.

COLD PROCESS SOAPS

(PART II)

By J. M. Vallance

BUILDERS and fillers for cold process soaps include "liquoring" materials such as sodium silicate, postassium carbonate and soda ash solutions, brine, sugar and borax, and also insoluble products like talc, starch, bentonite, wilkinite and china clay. Cold-made soaps, and especially those based mainly on coconut oil, are capable of taking up large quantities of filling materials.

Up to 10 per cent of sodium silicate or 5 per cent soda crystals are reasonable maximums, although these proportions may easily be exceeded. Both exert a hardening effect, while the carbonate will effloresce to form an unsightly white powdery film on the surface of the cake if an excessive quantity is incorporated. Sodium silicate should as usual be rendered thoroughly alkaline before addition to the newly saponified mass. On the Continent, it has apparently been customary to add up to 80 per cent of fillers in heavily adulterated coconut soaps, use being made of such liquoring solutions as the following: 30 parts sugar, 25 potash and 20 salt dissolved hot in about 160 parts of water, and the cooled solution further diluted with water to 24° Be. Too strong a concentration of these solutions can obviously bring about separation of the soap in the frames.

Buffered sodium metaphosphate and sodium pyrophosphate deserve inclusion in good quality, lightly filled soaps by virtue of their ability to increase lathering power and disperse lime soaps. It has been shown that an addition of from 2 to 5 per cent of these materials is sufficient to effect such improvements in the finished product. Methyl cellulose has also been suggested as a filler and improver for use in cold-made soaps. Dr. G. Knigge suggesting the following formula and procedure:

A batch of 100 kilos of high-grade coconut oil is melted in the crutcher and heated to approximately 95° F. Successive additions of 41 kilos of caustic soda lye and 15 kilos of caustic potash lye (both of 38° Be) are then run in a slender jet, with constant stirring. When emulsification has occurred, 10 kilos of waterglass and 22 kilos of alkaline salt filler solution are stirred in and, finally, 20 kilos of methyl cellulose solution. The crutching is continued until the mass thickens. Such a coconut oil soap has approximately 46 per cent fatty acid content. Due to the admixture of methyl cellulose it is claimed to produce a fine-bubble lather, and to be, in fact, in every way satisfactory.

It is somewhat surprising that even an authority like Dr. Reginald Child should decry the utilization of all "inert" fillers, including china clay and bentonite ("the less of such additions the better"). Quite apart from the proven efficacy of these materials as colloidal detergents, they possess also the doubly useful ability of absorbing and neutralizing free alkali. That cold process soaps are either finished alkaline or else left with an excess of coconut oil is well known, and, in the former case, one cannot but feel that the emollient, lather-promoting and alkali-absorbing properties of china clay and bentonite should prove definitely valuable. In my opinion a cold-made soap containing about 5 per cent of Cornish china clay is less likely to contain free fatty acids or free alkali. Owing to the increase in the velocity of saponification, and to the more complete saponification, the quantities of reacting material can be more easily adjusted and any slight excess of alkali is counteracted by the adsorptive power of the colloidal clay.

Bentonite, too, is useful in this respect, and may well be made into a dispersion with hot water for subsequent addition to the soap. It may here be noted that an American source recommends the incorporation of the bentonite dispersion with the fats, the alkali being added last of all. This latter procedure is said to facilitate complete and rapid emulsification and saponification.. I have personally used china clay with considerable success, but if such additions go beyond a certain critical limit, the proportion of soap and colloidal clay becomes unbalanced, with the result that the soap is salted out and the mixture spoiled. In any given kettle charge, careful experiment is desirable in order to ascertain the optimum proportion of china clay or bentonite that may be incorporated.

THE perfuming and coloring of cold process soaps involves chiefly stability of the materials used in the presence of heat and concentrated alkali. A considerable proportion of the perfume is liable to attack by the free alkali which remains in large excess in the soap mass for a considerable time, until it is completely bound with the fat after spontaneous heating. In this process the perfume frequently suffers, and for that reason only the most alkali-stable essential oils, synthetics and isolates should be employed. While such oils as

geranium, palmarosa and sandalwood can be used in these soaps with little fear of unwelcome reactions, certain esters and aldehydes, etc. cannot be recommended. The old-remelted Brown Windsor type of toilet soap was perfumed with a mixture of caraway, cassia and clove oils, but one of the best British cold-made toilet soaps is tinted an attractive shade of brown and perfumed with a sandalwood, cedarwood, clove, bromstyrol, synthetic musk and vanillin complex.

Among the perfumery materials suitable for addition to white cold-made soaps are geranium, Java citronella, gingergrass, patchouli, linaloe, rosemary, sassafras, East Indian and Australian sandalwood, spike, white thyme and wintergreen; also benzyl alcohol, bornyl acetate, geraniol, heliotropin, ionone, linalool, synthetic musks, phenylethyl alcohol, terpineol, thymol, safrol, isosafrol and cinnamic alcohol. Particularly interesting for colored cold-made soaps are cassia, lavender, cinnamon, vanillin, cinnamic aldehyde and the various resins and balsams. The following simple formula has been succesfully employed for perfuming English cold-made soaps of the popular White Windsor type: Java citronella oil 45 per cent, rosemary oil 16, terpineol 39.

Generally speaking, however, it is better for the majority of soapmakers to purchase ready-made perfume compositions, guaranteed alkali-fast. The same comment applies to dyestuffs, which should be stable to alkali and thoroughly dissolved in water, care being taken to filter out any specks of undissolved color. Insoluble colors, such as ultramarine blue, may also be judiciously incorporated, but unless these are well worked in, an undesirable mottling effect is apt to result. Chlorophyll is probably the most satisfactory green to withstand the strongly alkaline solution necessary for this type of process. Rhodamine reds, tartrazine and metanil yellows, naphthol orange, mandarin and disulfine blue, may all be used to good effect. Violets and browns are usually somewhat difficult, while naphthol green is sensitive to hot alkali and is partially decomposed thereby.

Other colors present no difficulty, but should a particular shade be required it is advisable to get the color manufacturer to do the job unless the exact nature of the colors to be mixed is known. Mysterious pink spots are likely to make their appearance if acid, basic or alkaline dyes are not kept to their class when blended. Generally speaking, dyestuffs are best made up in stock solutions, by boiling in water for a few minutes and then straining through cloth. A small percentage of soda ash is frequently added. Apart from stability to alkali, other points to be considered when selecting a dyestuff for cold process soaps are fastness to light and concentration. It is particularly undesirable to incorporate so much dyestuff in a soap that the lather itself is colored. As to lightfastness, any mild deficiency in this respect may be overcome by wrapping the soap in waxed paper, packing it in cartons etc.

THE utilization of cold process soap scrap is frequently one of the major difficulties with which the soapmaker is confronted. This is not the case if tubular metal frames are used (as previously suggested). But when the ordinary small rectangular frames are employed, it is practically impossible to kep down the accumulation of scrap to a very low limit, even if maximum attention is given to careful slabbing, cutting and pressing.

With very skillful handling soap cuttings can be included during saponification by the cold process, but they can much more readily be incorporated in an occasional batch prepared by the semi-boiled process. If one can incorporate such scraps in a boiling kettle, so that the glycerine may be recovered, so much the better.

If boiling is not practiced, steam-jacketed kettles may be used to re-melt the scrap, but if filling material in the form of silicate has been incorporated, the re-melted batch must be kept on the alkaline side, as otherwise bunching will occur, due to the formation of silicic acid. If lumps form in this fashion, it is possible to disperse them by gradually adding further alkali with continual stirring, until there is a slight excess.

If there is no objection to a mottled soap, colored soap scrap may be added to a newly made frame of white cold process soap. Such scrap, evenly distributed, gives quite an attractive mottled effect. Unfortunately, however, this method of using up soap scrap is not often practicable, owing to the limited popularity of variegated colored soap, except for export purposes.

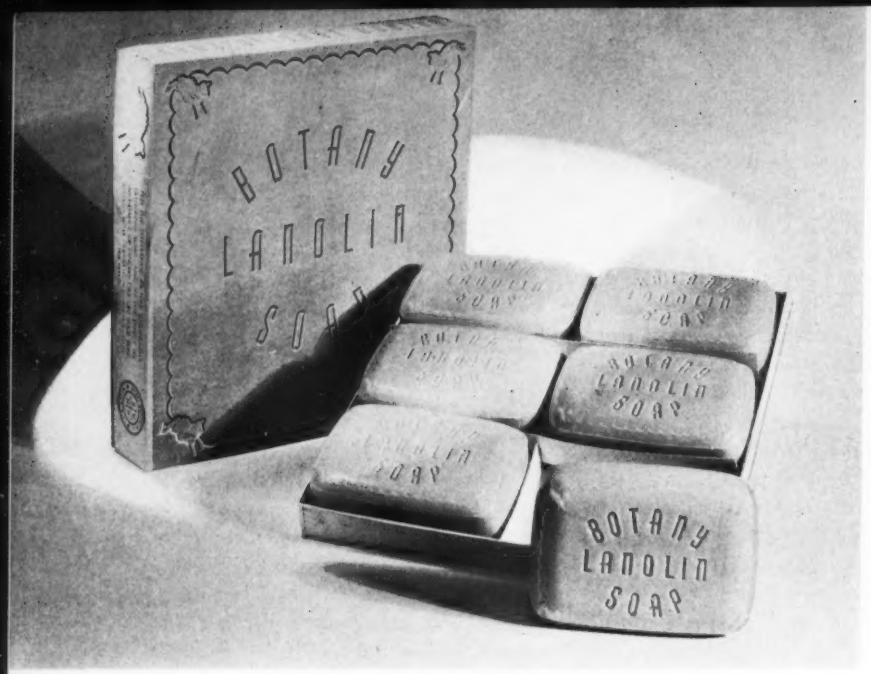
It is also possible to utilize cold-made soap in relatively small quantities in the manufacture of milled toilet soap and of powdered soap. According to Knigge, coconut soap scrap is well suited for subsequent conversion into floating soap, 2 parts of the scrap being mixed with one part of water and the heated paste well beaten to incorporate air. Apparently a spiral agitating device may be used for incorporating air in this manner, and the beating is continued until the specific gravity of the soap has decreased to such a point that the soap is capable of floating on water.

While new scrap removed from white soap may in certain cases be thrown back directly into the processing kettle, this naturally cannot apply to colored scrap. Moreover, if no boiled soaps are made on the premises, it is sometimes the best plan to dispose of the scrap to a soap boiling firm that can make some use of it.

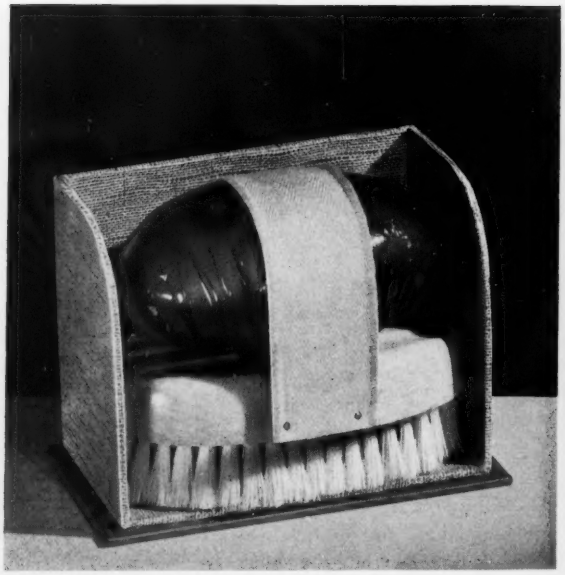
IN THIS, the concluding section of these observations, we may well consider some of the more specialized types of soap that are peculiarly adapted to manufacture by the cold process. Thus a firm of international repute was faced with the problem of incorporating in a toilet soap relatively large quantities of a naturally-occur-

(*Turn to Page* 67)

New Products and



Botany Lanolin Soap is a prominent item in the new line of toiletries being marketed by Botany Worsted Mills, Passaic, N. J. A cleansing cream and pure lanolin are also offered. Being introduced in eastern markets, with eventual national distribution.



Lightfoot-Schultz Co., New York, has introduced a new shower bath set for men consisting of a bath brush and a 11½-ounce cake of bath soap. The container features leatherette trimming in a saddle-shaped design.

A new spot remover "Johnny-on-the-Spot" has recently been introduced by the Wildon Co., East Orange, N. J. The red metal cap covers a special brush-like applicator top. Design by Gregory & Bolton, of Cleveland, Ohio.

Packages

Slow Rate of Evaporation–THIS CAN SUFFICIENT to do at least 3 cars
TARLENE
COUNT 1·2·3·4·5· 6
ASK YOUR JOBBER SALESMAN
slow GUNK MOTOR FIZIK for removing tars from the inside of your automobile engine . . . also GUNK degreaser for washing the grease from the outside of your motor.

Curran Corp., Malden, Mass., have recently redesigned the pint size container for "Tarlene" tar remover. The cans are lithographed in red & blue.

A new line of illustrated kiddie soaps has just been introduced by Illustrated Soap, Inc., New York. The Mother Goose characters in vegetable colors are coated with a preparation which is said to preserve them intact through the life of the cake.

A new bath soap "Savon pour le Bain" has been introduced by Jean Nate, Inc., New York. Superfatted with lanolin, three six-ounce cakes are packed to the box, retailing at $1.50. Package colors are chartreuse, black and white.

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News....

Davies-Young Insurance Plan

Davies-Young Soap Co., Dayton, O., has recently arranged a group life insurance policy involving a total of $115,000 for 80 employees, individual amounts ranging from $1,000 to $3,000. The workers are eligible to protection graded according to the positions they hold. The policies are of the contributory type, the workers themselves paying a part of the premium, the remainder of the expense being assumed by the Davies-Young company.

G. S. Robins & Co. to Move

G. S. Robins & Co., soaps and sanitary chemicals, St. Louis, are planning to move to another building which they are remodeling at 126 Chouteau Avenue. The property contains approximately 71,000 square feet of ground and is located on the Missouri Pacific as well as Manufacturers Railway, with private switching facilities. The main building, which will be used for warehousing of chemicals, has an approximate ground area of 40,000 square feet.

William Walker Dies

William Walker, at one time associated with W. & H. Walker, soap manufacturers, recently died in his home in Shields, Pa. More recently, and prior to his retirement, Mr. Walker had been director and treasurer of Harbison-Walker Refractories Co. He was 88 years old.

P. & G. Earnings Up

Procter & Gamble Co., Cincinnati, and its subsidiaries reported net earnings of $7,634,697 for the last quarter of 1939. This is equal to $1.17 a share on 6,409,418 shares of common stock and compares with net earnings of $5,784,750 equal to 87c a share for the last quarter of 1938. During the third quarter of 1939 the company reported net earnings of $6,951,841 equal to $1.06 a share on the common stock.

Elect Adams Colgate Vice-Pres.

James S. Adams, for the past six years executive vice-president of

James S. Adams

Benton & Bowles, Inc., has been elected as executive vice-president of Colgate-Palmolive-Peet Co., Jersey City, N. J. In his former position, he directed the agency's work on the Colgate company's national advertising. Prior to joining Benton & Bowles, Mr. Adams was for six years vice president and assistant to the president of the Johns-Manville Corp.

Institute Elects S. S. Fels

Samuel S. Fels, president, Fels Naptha Co., Philadelphia, was recently elected a member of the board of managers of the Franklin Institute, Philadelphia, at its annual meeting on January 17.

Packaging Show March 26-29

The American Management Association will hold its 10th annual Packaging Exposition and Conference at the Hotel Astor, New York, March 26-29.

Soap Assn. Reports for 1939

Highlights of its activities during 1939 are outlined in a pictorial report just issued by the Association of American Soap & Glycerine Producers. Special activities during the year included an exhibit at the Chemical Industries Exposition, presenting to the government the soap industry's views on taxes, representing the soap industry in trade agreement conferences, checking on legislation involving compulsory registration of trade marks, wage and hour bills, drug and cosmetic bills, etc. In addition the usual activities of cleanliness education, glycerine research and publicity, and collection of soap sales census figures was continued.

Albany Soap Elects Grober

Albany Soap Corp., Albany, N. Y., elected Joseph Grober as president and general manager at its annual meeting held January 9. Other officers elected are: William C. Schipman, vice-president; William H. Geier, assistant manager; John H. Rea, treasurer, and Harry J. Geier, secretary.

Pinaud Fair Trade Price List

Pinaud, Inc., soaps and other toilet articles, New York, has just issued a new supplementary fair trade price list which is classified by groups of products for ready reference. All prices shown in the list are in effect under existing Fair Trade Laws.

Explosion at Lever Plant

The Chicago plant of Lever Brothers Co. was the scene of an oil tank explosion on January 18th. The tank contained 7,000,000 pounds of refined cottonseed oil and was one of thirteen which are located at the rear of the company's edible process building. During the confusion a

syphon line was ripped out of a tank containing about 3,000,000 pounds of soybean oil, and before the leak could be plugged, half of this spilled onto the ground. Just prior to the explosion, a workman had reported that the coils on that tank were frozen, according to newspaper accounts.

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Guenther on Essential Oils

Dr. Ernest S. Guenther of Fritzsche Brothers, Inc., New York, well-known essential oil authority, gave a lecture and showed colored motion picture films on "Essential Oil Production in the Far East" before an audience of 250 persons on January 16th in the North Ballroom of the Hotel New Yorker, New York. Dr. Guenther's films and lecture covered a trip of almost a year through the Far East including the production of lemongrass, citronella, both Ceylon and Java, patchouli, vetiver, cananga, ylang ylang, star anise, cassia, camphor products and others. He also touched on citrus oil production in Sicily, French West Africa and California. The essential purpose of Dr. Guenther's extended trip was to find out by personal investigation the best and most reliable sources of essential oil production and to bring back authentic samples made under his own supervision. Following the showing of his very excellent pictures and lectures, Dr. Guenther answered numerous questions of those who attended. Joseph A. Huisking of Fritzsche Brothers acted as chairman and introduced the speaker.

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Chicago Group Hears Clark

The Chicago Drug and Chemical Association lunched at Hotel Morrison, Jan. 25. Guest speaker was Wallace Clark, who recounted travel adventures in Japan, China and Bali.

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DCAT Banquet Committees

J. J. Toohy, E. R. Squibb & Sons, was recently appointed chairman of the reception committee for the 15th annual banquet of the Drug, Chemical and Allied Trades Section of the New York Board of Trade which will be held at the Hotel Waldorf-Astoria, March 14. The committee, of which Robert J. Quinn, Mathieson Alkali Works, is vice-chairman, held its organization meeting at a dinner given at the Waldorf-Astoria, January 10. The organization meeting of the publicity committee was held at a luncheon at the Waldorf-Astoria, January 9. P. Wesley Comba, Jr., William Esty & Co., is chairman of this committee and Turner F. Currens, Norwich Pharmacal Co., is vice-chairman.

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Talks on Synthetic Fats

Synthetic manufacture of industrial and edible fats from coal was described recently before the American Association for the Advancement of Science in Columbus, Ohio, by Dr. Willy Lange of the University of Cincinnati. Dr. Lange presented a paper on "Synthesis of Fatty Acids and Edible Fats from Paraffin-Wax," specifically as practiced in Germany today under war conditions. He said, in part:

"The synthesis of fatty acids on a large scale was made possible only through the development of the Fischer-Tropsch process. Starting from coal and water, this process synthesizes a mixture of hydrocarbons which contains a certain part of higher molecular paraffins suitable for the synthesis of fatty acids. These fatty acids are at present more expensive than the natural products. An excellent distilled fatty acid suitable for soap manufacturing, as well as for obtaining edible fats, costs almost double the price of nautral fatty acid. The price of the fatty acid can be materially reduced by continuously improving manufacturing processes."

This method, by which the paraffin-wax is oxidized to fatty acids by air in the presence of manganese salts at the temperature of boiling water, may, Dr. Lange believes, make Germany independent of imported fats for the soap industry if the European war lasts four or five years. Since Germany possess no natural petroleum, paraffin-wax must be made synthetically from coal by a modification of the Fischer-Tropsch process, devised originally for production of gasoline. The process is still in its infancy. Germany is operating plants with a capacity of 20,000 to 40,000 tons a year and several experimental units have been started in the United States, Dr. Lange said, using paraffin from pertoleum rather than the synthetic wax.

Chicago Perfumers Elect

At the recent annual business meeting of the Chicago Perfumery, Soap and Extract Association the following officers were elected for 1940: president, Paul H. Pettit of Bree Cosmetics Inc.; vice president, Carl M. Black of S. B. Penick & Co.; secretary-treasurer, C. A. Hammond of F. N. Burt Co. In addition to the report of the secretary-treasurer, final committee reports were given by the committee chairmen. A. A. Bafetti, retiring president, was presented with a gold wrist watch in appreciation of his work during the year.

Confer on Deceptive Cartons

William M. Bristol, Jr., Bristol-Myers Co.; K. T. Krantz, Colgate-Palmolive-Peet Co.; Joel Y. Lund, Lambert Pharmacal Co., and H. F. Woulfe, Pepsodent Co., were all members of a committee representing the Packaging Institute which recently reached a satisfactory agreement with the U. S. Food and Drug Administration and established a definite formula for determining carton sizes for tubes. The formula and specifications which were approved by Washington officials provided for diagonal insertion of the tubes.

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Glidden Building New Elevator

The Glidden Co., oil crushers and refiners are expanding their Chicago facilities by erection of an additional elevator having a million bushels storage capacity. Located at 5165 West Moffet St., the structure will have switching connection with the C. M. & St. P. R.R. and the Belt Line R.R. of Chicago. The expansion represents an investment of $175,000 and contracts call for completion by March 1st.

Armour Earnings Up

Armour & Co., Chicago, had net earnings above $7,000,000 last year as compared to a loss of approximately $1,500,000 the previous year, according to George A. Eastwood, president of the company, in his annual report to stockholders. Mr. Eastwood also announced that directors have authorized an issue of not to exceed $40,000,000 of first mortgage fifteen-year 4 per cent bonds, the proceeds of which would be applied toward redemption of the 7 per cent cumulative preferred stock of the Delaware operating company.

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Clark Named Cowles Manager

Earl F. Clark has recently been named manager of the heavy chemical department of Cowles Detergent Co. with headquarters in Cleveland. Mr. Clark was with the Standard Silicate Division of the Diamond Alkali Co. for many years, and has been associated with the Cowles company for the past several months as a representative of the laundry department in western New England. He succeeds Ralph C. Hughes who resigned to take a position with Hooker Electrochemical Co., Niagara Falls, N. Y.

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CSA Inducts Officers

DeWitt W. Thompson, Mathieson Alkali Works, was installed as president of the Salesmen's Association of the American Chemical Industry at the association's annual meeting on January 23rd. Walter Merrill, Joseph Turner & Co., assumed the office of vice president; C. O. Lind, Dow Chemical Co., treasurer, and G. S. Furman, Merck & Co., secretary. New members of the executive committee are: W. J. Weed, Niagara Alkali Co.; R. P. Gould, Heyden Chemical Corp.; and George T. Short, Wishnick Tumpeer, Inc. Joseph Wafer, industrial chemical sales division of West Virginia Pulp & Paper Co., retiring president of the association, was presented with a gift, as were the retiring members of the executive committee, James J. Kerrigan, Merck & Co., and A. A. Wasserscheid, Mallinckrodt Chemical Works. P. J. LoBue, Joseph Turner & Co., was named chairman of the entertainment committee for the coming year. New dates for the association's four golf tournaments have been tentatively set for June 18, July 9, August 13 and September 17.

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Ivory Soap Contest

Procter & Gamble Co., Cincinnati, is now conducting a contest for "Ivory" soap, which is said to be the largest ever staged for that brand. National magazines, Sunday newspapers and radio are being used to promote the contest. For each of six straight weeks, ten first prizes of new Buick sedans with 1,000 gallons of gasoline and a $50 credit ticket for accessories or service are being awarded.

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Cite Wage Act Violation

The Sanitary Institute of America has recently taken to the U. S. Department of Labor a complaint of violation of the wage and hour law by commercial laundries engaged in the laundering of overalls, industrial towels and uniforms. These laundries, it is charged, are competing unfairly with members of the Institute who are manufacturers of sterilized industrial wiping cloths and all of whom it is stated are complying with the provisions of the Fair Labor Standards Act. The commercial laundries base their claim to exemption on Section 10 on Interpretative Bulletin No. 6 which exempts service establishments such as barber shops, restaurants, laundries, etc. from application of the wage and hour act. In a statement by Joseph Rauh, of the U. S. Labor Department, however, it is pointed out that this exemption is meant to apply only to family laundries engaged in the laundry of family wash, and not to commercial or industrial laundries. The complaint of unfair competition is currently being investigated.

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Oscar B. Tuescher Dies

Oscar B. Tuescher, secretary-treasurer, Home Soap Co., Pittsburgh, died at the Presbyterian Hospital on December 17. He was 52 years of age.

Wrisley Co. Re-elects Oleson

Wrisley B. Oleson was re-elected president of Allen B. Wrisley Distributing Co., at the annual stockholders meeting in Chicago, Jan. 17. Other officers re-elected include George A. Wrisley, vice president and general manager; J. B. Wrisley, vice president; M. M. Drury, treasurer; C. H. Iwen, secretary. Founded over 75 years ago, the Wrisley company is one of Chicago's oldest industrial enterprises. Reports from all departments indicated "a very successful year," President Oleson stated.

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A. C. Smith Dies

A. C. Smith, salesman for John T. Stanley Co., soap manufacturers, New York, died on January 17th in Dunedin, Fla., where he had been spending his vacation. Mr. Smith had represented the Stanley company in the New York and New Jersey territories for the past 42 years. He was 82 years old, and made his home in Arlington, N. J.

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Honor Retiring Jergens Official

Frank C. Adams, vice-president and treasurer of Andrew Jergens Co., Cincinnati, was given a testimonial dinner recently by president Andrew Jergens and his associates upon his retirement from business after 48 years' service with the company. Adams started with the company as a boy in his teens. He is a member of Cincinnati's Park Commission and active in other civic enterprises. Following reelection of officers and directors early in January, the company announced closing of a lease for a seven story and basement warehouse building at Sixth and Eggleston Avenues. The property comprises more than 40,000 feet of floor-space.

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Emery Industries 100th Year

Emery Industries, Inc., manufacturers of stearic acid, oleic acid and Twitchell products, Cincinnati, are celebrating their 100th anniversary this year. To mark the anniversary, the company has prepared a new book containing complete descriptive material concerning the company's products.

MY WASH WAS NEVER SO WHITE BEFORE
SUCH MARVELOUS SUDS.. ...FROM LESS SOAP TOO!
LOOK HOW SOFT IT LEAVES MY HANDS
UMM! CLOTHES DRY SO SWEET SMELLING

COULD IT BE Your SOAP THEY'RE PRAISING?

Through timely consumer advertising of a product conspicuous for its performance . . . words of praise are being put into the mouths of housewives everywhere, today, by those farsighted soap makers who have turned to VICTOR TETRASODIUM PYROPHOSPHATE. For never has a soap builder given the manufacturer so many talking points . . . nor contributed so much to the quality of his product. There's news in soap today! Make the most of it while "the town's still talking."

TETRASODIUM PYROPHOSPHATE'S powerful water-softening action gives more suds from less soap. Unique "peptizing" action suspends dirt particles throughout washing solution . . . prevents them from becoming enmeshed in the fabric. Clothes rinse cleaner, whiter. Mild alkalinity (pH of 10.2) . . . will not tender hands.

Anticipating the demand for TETRASODIUM PYROPHOSPHATE as a soap builder, Victor developed an improved manufacturing technique . . . built the largest plant of its kind in existence . . . was first to meet the demand for a product of improved quality.

TETRASODIUM PYROPHOSPHATE ..BY..

VICTOR

HEADQUARTERS FOR... pHosphates

VICTOR CHEMICAL WORKS, 141 W. Jackson Boulevard, Chicago, Illinois
Plants: Nashville, Tenn.; Mt. Pleasant, Tenn.; Chicago Heights, Ill.
Offices: New York, N. Y.; Kansas City, Mo.; St. Louis, Mo.; Greensboro, N. C.

John T. Stanley Co. Celebrates 75th Year

JOHN T. STANLEY COMPANY, New York, celebrates its seventy-fifth anniversary this year. It was in 1865 that John T. Stanley founded the company that bears his name. The company's first plant was a small affair located in lower Manhattan in Jane Street, later on in West 15th Street, and employing only a few persons. The business, at that time, consisted in the manufacture of soft soap, textile soaps, candles and the production of tallow and greases. As early as 1892, however, increased business made necessary a move to larger quarters and the plant was relocated at its present site on West 30th Street, where it comprised only a small part of the present plant.

Since that time, the Stanley Company, through the buying of some buildings and the erection of others, has enlarged so that its present activities cover three-quarters of a city block. Naturally, a corresponding increase has taken place in the number of employees and today they comprise several hundred. A surprisingly large number of this group, salesmen, drivers and soap makers, have been with the company for more than 25 years. The company encourages employee recreation, and for years has sponsored an employee baseball team. In 1930, the team won both the Midtown Industrial League and the Twilight Commercial League Championships, and in 1932, was runner-up in the Spaulding Industrial League.

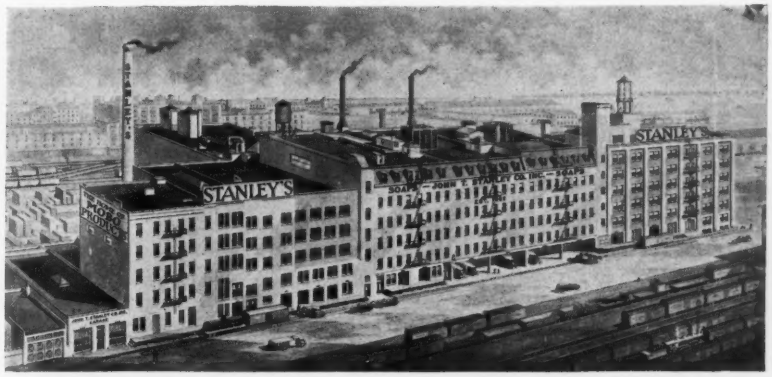
John T. Stanley, founder of the firm, remained its president for 70 years and was active in the business up until the day of his death in 1935, at the age of 93. Upon his father's death, Alfred T. Stanley, who has been associated with the company for many years, became president, and his brother John W. Stanley, who marks 50 years of service, became vice-president. The family line does not stop here, however, as two sons of John W. Stanley are also actively engaged in the business, John T. Stanley as secretary, and Alfred T. Stanley.

Today, as manufacturers of high grade toilet soaps, household,

The late John T. Stanley

industrial and textile soaps, the company includes in its operations a large export business in laundry and toilet soap. They also have a large jobbing business locally, selling laundry supplies to steam laundries and soaps and other detergents direct to hotels, hospitals and institutions. The John T. Stanley Company is a member of the Association of American Soap & Glycerine Producers and the Laundry & Cleaners Allied Trades Association, being represented in both by Nils S. Dahl, general manager of the company, who is a director and treasurer in both associations. Mr. Dahl joined the company in 1904 as a stenographer and has since worked up through the company to his present position.

The John T. Stanley Co. plant on West 30th Street, New York, now occupies almost a whole city block. It originally composed only a small part of the center building. The original Stanley plant on this site was built in 1892.



Soap Employment Index Down

The employment index for the United States soap industry dropped several points in December, 1939 to reach the figure of 84.9 as compared to 88.6 for the previous month of November and 78.9 for the 1938 December mark. The payroll index also moved downward, the figure standing at 102.3 as compared to 104.4 for November, 1939, and 93.3 for December, 1938.

P. & G. Heads Advertisers

Procter & Gamble Co., Cincinnati, was again the leading advertiser using magazine, radio and farm paper media during 1939, according to figures released by *Advertising Age*. The total budget for the company was $11,229,332 as compared to $8,121,420 for the same media in 1938. Lever Bros. Co., Cambridge, Mass., was fourth among advertisers while Colgate-Palmolive-Peet Co., Jersey City, N. J., was fifth and Sterling Products Co., Easton, Pa., was seventh. During 1938, the Lever Company ranked sixth while the other two companies were not among the first ten.

Stop hunting — we got 'em!

— SUBSTITUTES

CAMFOL . . . . . for Camphor Sassafrassy
CITROGEN No. 22 . . . . . for Citronella
SAFRASS A.P. . . . . for Sassafras Artificial
BERGAMOT SYNTHETIC "S" . for Bergamot Natural
GERANIUM SYNTHETIC A.P. . for Geranium Natural
LAVENDER FLEURS
SYNTHETIC A.P. . . . . for Lavender Natural

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Aromatic Products, Inc.

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MEMPHIS, TENN.
364 So. Front St.
Room 108, Brokers Bldg.

PITTSBURGH
727 Grant Building

CHICAGO
205 West Wacker Drive

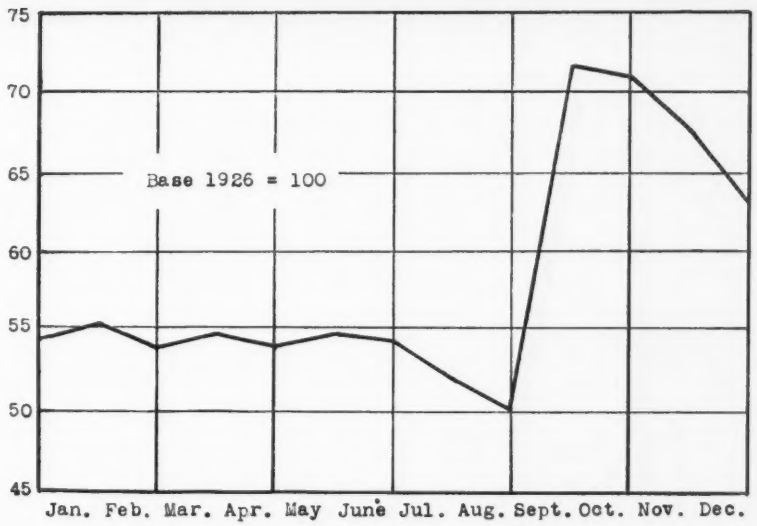
James Counts Soap Moves

James Counts Soap Co., which has specialized in the manufacture of liquid soaps and allied products for over a quarter century in St. Louis, has recently moved to new and larger quarters at 2131 Cass Avenue. The new location is a three story building which the company has purchased. The business is conducted as a partnership by James R. Counts and Edward J. Stoffregen, who joined the company in 1928 after having been connected with Wm. Waltke Soap Co. for 27 years as chemist.

Offer American Lamepons

Lamepons, a group of detergents and textile scouring agents which have become widely known in Europe and have been manufactured there for the past several years, are now being manufactured and sold in the United States by the Chemical Marketing Co., New York. The Lamepons are water-soluble, viscous oily liquids, produced in several modifications and grades. Chemically, they are condensation products of protein derivatives and fatty acids, and contain no soap or free fatty acid. They are not sulfonation products which distinguishes them from other well-known synthetic detergents. The Lamepons were developed in Germany and are covered by U. S. and foreign patents.

Developed originally for use in textile scouring and leveling, they have also had wide uses in other fields made possible by their stability in mineral acids, to heat and other chemicals, against lime soaps and other lime salts, and high detergent powers. They find use in emulsification of oils and waxes, as foaming agents, in general dispersion operations, and in detergency where effective detergent action must be accompanied by protective effect in the case of both vegetable and animal fibres, and in the case of human skin and hair. They can be used in conjunction with silicates, phosphates and other alkalies to augment their detergent action if needed. They have high wetting and dispersing properties when used as a spreader in insecticides. They have found wide use in Europe in soapless shampoos and dentifrices, clinical test showing them non-toxic. They are suitable for use in powdered detergents and hand cleaners where soap is not wanted. The office of the manufacturer is now located at 10 East 40th St., New York.



1939 PRICE RANGE OF LEADING SOAP OILS

A composite index, based on figures released by the Bureau of Raw Materials for American Vegetable Oils and Fats Industries, showing the price movements during 1939 of coconut, palm, palm kernel and whale oils, tallow and olive oil foots. Note the sharp upward movement during September and the receding price index during the last quarter of the year. The bureau has taken 1926 as the base or 100 point on the chart.

Boston Bims Winter Party

Members of the Bims of Boston, an organization composed of buyers, manufacturers, importers and salesmen of soaps and cosmetics, held a dinner and entertainment at the Hotel Lenox, Boston, on January 18. A cocktail party preceded the dinner and many of those in attendance stayed for an evening of card playing. Robert C. Kelly acted as chairman of the entertainment committee.

Shorty Wyatt A Father

W. N. Wyatt, assistant sales manager of the Warner Chemical Co. division of Westvaco Chlorine Products Corp., New York, and better known to the chemical trade under the nickname "Shorty," which really flatters his height, is the father of a son born a few weeks ago at the Mount Vernon Hospital. The child will struggle through life under the name, William John Wyatt. Weight at birth was a shade over eight pounds. Height statistics withheld.

Highest Salary To Countway

Considerable publicity was recently given to Francis A. Countway, president, Lever Bros., Cambridge, Mass., when the United States Treasury Department made public a list of the nation's highest salaries paid during 1938. Mr. Countway, according to the figures released, headed the list with a salary of $469,713.

C-P-P Executive Changes

Roy W. Peet, formerly advertising manager, has been appointed advertising director of Colgate-Palmolive-Peet Co., Jersey City, N. J. Hugh McKay has been appointed advertising manager of the company's toilet goods department. C. E. Douglas will continue as assistant advertising manager of that department, and Robert E. Healy has been appointed advertising manager of the soap department.

DUROFIX . . . A special fixative for scented soaps . . . Protects and prolongs fragrance indefinitely . . . Does not alter odor-character or add to cost . . . Mixes readily with all essential oils and aromatic chemicals . . . Will not discolor white soaps . . . Is highly effective in liquid soaps and bath salts . . . Write for samples and further details . . . Improve your soap with DUROFIX!

JAVOLLAL . . . An effective substitute for citronella . . . More powerful and economical . . . Widely used in solid, liquid and powdered soaps and in technical mixtures . . . Its effect, after incorporation, much more pleasing than natural oil . . . Latter changes odor . . . JAVOLLAL retains original clean, refreshing perfume . . . Combined with other essences, produces attractive odor-variations. . . .

RESINOIDS . . . Are natural extractions from gums, resins, drugs and balsams . . . Represent a superlative means of fixation . . . Employed in soap perfuming for that purpose and for odor-value as well . . . Highly concentrated, with all inert materials removed . . . Possess full aromatic content and fixative properties of respective crude materials . . . Impart true, characteristic perfume note of each. . . .

LAVANDIN and LAVENDER CONCRETE . . .

Two valuable perfume materials for the soap manufacturer . . . Former, a hybrid, resembles lavender more closely than does spike lavender . . . Admixture with LAVENDER CONCRETE increases fixation and enhances fragrance . . . Combination of two produces lavender note of new and attractive character . . . That's an idea for some large soap manufacturer! . . . May we submit samples?

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  Your basic materials should be the finest that modern methods and scientific skill can produce. In using FRITZSCHE'S Essential Oils you are assured matchless purity and dependability.

- **AROMATIC CHEMICALS**

  Large selection and superlative quality characterize the materials in this group. Use them for finer aromatic effects and for greater economy.

- **FIXATIVES**

  We carry a complete line of fixatives, including Rose Crystals, one of the best all-around fixatives, also a group of Artificial Animal Scents—Musk, Civet, Castoreum and Ambergris—especially adaptable to soap making.

- **ANTI-OXIDANTS**

  These recently developed preservatives for soaps, animal and vegetable fats and oils are highly important to the soap manufacturer. Write us for full details concerning Oxidex.

- **BATH SALT PERFUMES**

  Combining perfume and color, our delightful Bath Perstels greatly simplify and facilitate the process of manufacture. Very economical. Complete information and list of blends will be sent upon request.

- **INSECTICIDES AND DISINFECTANTS**

  All materials offered by us under this heading are the results of years of research applied to this increasingly important phase of perfuming. Selection from the FRITZSCHE catalog assures uniform and unvarying quality of odor.

- **DEODORIZING COMPOUNDS**

  Technical products such as para blocks, naphthalene, cleansers, waxes, polishes, solvents, diluents, etc., require good, dependable deodorizing compounds in their formulae. For effective, low cost coverage we offer and recommend Neutroleum, Safrella, Javollal, Methalate "C", and others.

- **TOILET SOAP COMPOUNDS**

  Perfumes in this group have been specially prepared to meet the exacting demands of soap manufacture. Exquisite scents at a minimum cost. Consult our catalog.

- **LIQUID SOAP AND SHAMPOO PERFUMES**

  These perfumes are highly soluble and mix readily with liquid soaps. Simple to use, cost limits and strength of odor desired determine quantity required.

- **DENTAL AND ORAL FLAVORS**

  These flavors are of a special character, skillfully blended to impart pleasant, clean, refreshing taste effects. We are prepared also to create special flavor blends according to your specifications and for your exclusive use. Consult us freely.

- **SOAP COLORS**

  We supply soap colors to produce any desired tint. Send us description or sample of color to be matched for our specific recommendations.

SEND FOR SAMPLES

Bims Honor Schultes

Martin Schultes, vice-president of the Hewitt Soap Co., Dayton, O., and founder of the "Bims" of New York, was the guest of honor at the annual corn beef dinner of that organization held on January 25, at Dinty Moore's Restaurant on 46th Street, New York, and attended by 150 members. Mr. Schultes was presented with an engraved scroll and a complete set of golf clubs, Jones irons and woods, and bag to match. The presentation was made by Frank Graham of the Devilbiss Co. A drawing for prizes was held during the dinner and among the winners were Nick Vesta of Daggett & Ramsdell, J. D. Condon of the McCrory Stores, and Howard Stern of Harriett Hubbard Ayer. Mr. Schultes is chairman of the general committee of the Bims which has no officers.

CPP Canada Bond Plan

Colgate - Palmolive - Peet Co., Ltd., Toronto, has initiated a plan whereby its employees are enabled to purchase Canada's first issue of war loan bonds. Under the plan, the company will advance money to its employees for the purchase of war loan bonds, repayable in payments spread over a period up to fifty weeks. The entire cost of the plan will be borne by the company, and employees will be given bond interest on the payments they make at the same rate of interest as the bond coupons. On completion of payments, the bonds are theirs.

Oil Ass'n Elects Fischbeck

Charles Fischbeck, vice-president, P. R. Dreyer Inc., was elected president of the Essential Oil Association of the U. S. A., at its annual meeting and banquet at the Hotel Warwick, New York, January 12. V. H. Fischer, Dodge & Olcott Co., was elected vice-president, and Robert Magnus of Magnus, Mabee & Reynard, Inc., secretary-treasurer.

Druggists Supply to Meet

The Druggists Supply Corporation will hold a meeting in the Hotel Pennsylvania, New York, March 4-9.

I DON'T KNOW WHETHER WE SHOULD PACKAGE THAT NEW PRODUCT IN METAL OR FIBRE
WHY NOT CALL IN AMERICAN CAN, PAUL? THEY'RE THE LARGEST MAKERS OF BOTH . . .

"The way I look at it, the man who has the best perspective is likely to have the soundest judgment. American Can has had the widest experience in both metal and fibre containers. That's important to us. Then, too, they can be unbiased in their judgment, because they make *both*. Either way we go, we'll have the benefits of their research and their resources. Let's study the problem with them."

CANCO AMERICAN CAN COMPANY, 230 PARK AVENUE, NEW YORK, N. Y.

Contracts Awarded

Treasury Soap Powder Award

Chemical Manufacturing & Distributing Co., Easton, Pa., was recently awarded the contract on 3,000 lbs. soap powder at $2.64 cwt. in an opening by the Treasury Procurement Supply at Washington, D. C.

Treasury Cleaner Award

J. A. Tumbler Laboratories, Baltimore, were awarded the contract on 330 gals. cleaner at 20c gal. in a recent opening by the Treasury Procurement Supply at Washington, D. C.

Washington Soap Awards

The following contracts were awarded in recent openings by the Treasury Procurement Supply at Washington, D. C. National Milling & Chemical Co., Philadelphia, 8,400 lbs. scouring powder at 1.47c per lb.; Harley Soap Co., Philadelphia, 11,000 gals. toilet soap at 17.95c per gal., and Jas. Good, Inc., Philadelphia, 6,200 lbs. automobile soap at 4.68c per lb.

Marine Corps Soap Awards

Swift Co., Chicago, was awarded the contract on 8,050 lbs. chip soap at 8.25c and on 675 lbs. grit soap at 9c in a recent opening by the U. S. Marine Corps at Washington, D. C. At the same opening, Procter & Gamble Distributing Co. was awarded the contract on 20,064 lbs. soap powder at 3.71c and Colgate-Palmolive-Peet Co., Jersey City, was awarded the contract on 15,000 lbs. laundry soap at 4.11c.

Chillicothe Soap Awards

Swift & Co., Columbus, O., was awarded the contract on 1,500 lbs. toilet soap at 8.625c in a recent opening by the Department of Justice at Chillicothe, O. Other contracts awarded at the same opening were to N. Brittingham & Sons, Philadelphia, 29.4c on 80 lbs. shaving soap, and Conray Products Co., New York, who submitted the bids of 4.8c on 1,800 lbs. grit soap and 24.5c on 218 lbs. tooth powder.

Metal Polish Award

Waxaid Co., Baltimore, was awarded the contract on 5,005 lbs. paste metal polish at 7.44c in a recent opening by the Post Office Supply Dept. at Washington, D. C.

Washington Cresol Bid

Crystal Soap & Chemical Co., Philadelphia, submitted the low bid of 14.6c on 120 lbs. cresol in a recent opening by the Government Printing Office at Washington, D. C.

Liquid Metal Polish Bid

R. M. Hollingshead Corp., Camden, bid low on 325,000 pts. liquid metal polish at $21,450 in a recent opening by the U. S. Navy Department at Washington, D. C.

Olive Oil Soda Soap Bids

Armour & Co., Chicago, submitted the low bid of $1,034.15 on 12,900 lbs. olive oil soda soap in a recent opening by the U. S. Navy Department at Washington, D. C. In another opening, Colgate-Palmolive-Peet Co., Jersey City, N. J., bid low on 7,720 lbs. of the same type soap at $557.97.

Carbon Tetrachloride Award

Globe Solvents Co., Philadelphia, was awarded the contract on 500 gals. carbon tetrachloride at 65c in a recent opening by the Army Ordnance at Frankford Arsenal, Pa.

Navy Sweeping Compound Bid

United Supply Co., Paterson, N. J., submitted the low bid of $800 on 80,000 lbs. sweeping compound in a recent opening by the U. S. Navy Dept. at Washington, D. C.

Chicago Soap Awards

M. H. Fairchild & Bros., Chicago, were awarded the contract on 25,000 cakes grit soap at 2.145c in a recent opening by the U. S. Army Quartermaster at Chicago. At the same opening, Armour & Co., Chicago, was awarded the contract on 365,000 cakes laundry soap at 3.58c.

Shaving Cream Award

Trade Laboratories, Newark, N. J., were awarded the contract on 128,984 tubes shaving cream at 4.35c in a recent opening by the U. S. Army Quartermaster at Brooklyn. At the same opening they were also awarded the contract on 128,844 tubes toothpaste at 4.35c.

Scrub Brushes Award

Standard Brush & Broom Co., Portland, Ind., was awarded the contract on 800 scrub brushes at 12.25c in a recent opening by the U. S. Army Quartermaster at Ft. Sam Houston, Tex.

Chip Soap Bid

Kirkman & Son, Brooklyn, submitted the low bid of $2,815.80 on 46,000 lbs. chip soap in a recent opening by the U. S. Navy Department at Washington, D. C.

Naval Grit Soap Bids

Newell-Gutradt Co., San Francisco, submitted the low bid of $1,402.72 on 43,200 lbs. grit soap in a recent opening by the U. S. Navy Dept. at Washington, D. C. In other openings, Day & Frick, Philadelphia, bid low on 40,000 lbs. grit soap at $1,435.50, and on 49,000 lbs. grit soap at $1,514.10.

Laundry Soap Bids

Kirkman & Son, Brooklyn, bid low on 89,000 lbs. laundry soap at $3,205.70 in a recent opening by the U. S. Navy Dept. at Washington, D. C. In another opening by the same department, Colgate-Palmolive-Peet Co., Jersey City, submitted the low bid of 4.14c on 6,200 lbs. laundry soap.

Liquid Soap Bid

Harley Soap Co., Philadelphia, submitted the low bid of $2,074.95 on 8,800 gals. liquid soap in a recent opening by the U. S. Navy Dept. at Washington, D. C.

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Filter Paper	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

New Trade Marks

The following trade-marks were published in the January issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

DRYLITE—This in solid letters describing laundering detergent. Filed by the Cowles Detergent Co., Cleveland, Oct. 4, 1939. Claims use since Aug. 8, 1939.

LAST WORD—This in solid letters describing shaving cream. Filed by Armand Co., Des Moines, Iowa. Oct. 30, 1939. Claims use since Aug. 1, 1939.

TAREX—This in solid letters describing cleaning preparation. Filed by Wright Chemical Co., Everett, Mass., Nov., 18, 1938. Claims use since Aug. 1, 1927.

KLEN—This in outline letters together with words "The Modern Polish" both mounted upon figure of contrasting background, describing cleaning and polishing preparation. Filed by Klenzall Co., Chicago, Oct. 9, 1939. Claims use since July 17, 1939.

MANG-SECT—This in solid letters describing insecticides. Filed by Orville E. McKim, Port Chester, N. Y., Oct. 24, 1939. Claims use since June 28, 1939.

TIMEX—This in outline letters describing polishing compound. Filed by Timex Products Co., St. Louis, Oct. 6, 1939. Claims use since March 13, 1939.

TARPINOL—This in fancy letters describing germicide. Filed by Pine Products Distributing Co., Patrick, S. C., Jan. 4, 1939. Claims use since Aug. 15, 1938.

TROPICALE—This in fancy letters describing shampoo. Filed by G. Saleva & Co., New York, May 2, 1939. Claims use since April 11, 1939.

DENTRILLA — This in shaded letters describing liquid dentifrices. Filed by Gorden M. MacNeill, Lynbrook, N. Y., Oct. 27, 1939. Claims use since Sept., 1937.

HI-VISIBILITY — This in stenciled letters describing soda ash. Filed by Mathieson Alkali Works, Inc., New York, Nov. 10, 1939. Claims use since Oct. 10, 1939.

AVALON—This in solid letters describing furniture polish. Filed by Wesco Foods Co., Cincinnati, Aug. 29, 1936. Claims use since July 31, 1936.

ESTOX—This in solid letters describing cleaning compounds. Filed by Standard Supply Co., New Haven, Conn., Oct. 27, 1939. Claims use since June 1, 1938.

HYLO—This in solid letters describing cleansing compounds. Filed by Hylo Co., Houston, Tex., July 24, 1939. Claims use since April 5, 1939.

CAR SHAMPOO—This in solid letters describing cleaning agent. Filed by Turco Products, Inc., Los Angeles, Dec. 16, 1938. Claims use since Aug. 1, 1938.

ANCO—This in solid letters describing glass cleaner. Filed by the Anderson Co., Gary, Ind., May 22, 1939. Claims use since Nov. 27, 1934.

REV—This in solid letters describing detergents. Filed by International Chemical Co., Chicago, Oct. 20, 1939. Claims use since Dec. 9, 1926.

DISH-INE—This in solid letters describing cleaning compound. Filed by Hercules Powder Co., Wilmington, Del., Nov. 17, 1939. Claims use since Oct. 3, 1939.

ANTICAL—This in solid letters describing cleaner. Filed by Milk Plant Specialties Corp., Rochester, N. Y., Oct. 4, 1939. Claims use since Sept. 25, 1939.

SULFACO—This in solid letters describing soapless wet cleaner. Filed by R. R. Street & Co., Chicago, Nov. 27, 1939. Claims use since Nov. 14, 1939.

QUAD—This in stenciled letters describing washing compound. Filed by Armour & Co. of Delaware, Chicago, Dec. 1, 1939. Claims use since Nov. 16, 1939.

FLY JINX—This in solid letters describing fly spray. Filed by Claire Manufacturing Co., Chicago, Feb. 28, 1938. Claims use since Dec. 18, 1937.

Trade Marks Granted

373,840. Liquid Insecticide. Hutting Sash & Door Co., St. Louis. Filed April 24, 1939. Serial No. 418,640. Published October 10, 1939. Class 6.

373,848. Disinfectants. Anton Sales Co., Philadelphia. Filed May 6, 1939. Serial No. 419,137. Published September 19, 1939. Class 6.

373,852. Insecticides. Allegheny Chemical Corp., Reading, Pa. Filed May 16, 1939. Serial No. 419,492. Published September 19, 1939. Class 6.

373,871. Pine Oil Disinfectant. Val-A Co., Chicago. Filed June 15, 1939. Serial No. 420,551. Published October 17, 1939. Class 6.

373,878. Liquid Soap Shampoo. Joseph Henry Karp, New York. Filed June 23, 1939. Serial No. 420,862. Published October 10, 1939. Class 6.

373,917. Mosquito Repellent Creams. E. S. Jindrich, Cicero, Ill. Filed July 15, 1939. Serial No. 421,613. Published September 26, 1939. Class 6.

373,972. Moth-Proofing Compositions. Turner-Pfister Chemical Corp., Ridgefield, N. J. Filed August 8, 1939. Serial No. 422,422. Published October 17, 1939. Class 6.

373,987. Insecticides. Archer Chemical Co., Grand Rapids, Mich. Filed August 11, 1939. Serial No. 422,502. Published September 19, 1939. Class 6.

373,989. Detergents. Caled Products Co., Brentwood, Md. Filed August 14, 1939. Serial No. 422,575. Published October 17, 1939. Class 4.

373,992. Insecticides. E. I. Du Pont de Nemours and Co., Wilmington, Del. Filed August 15, 1939.

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CINCINNATI, U. S. A.

London, England

Los Angeles
San Francisco
Seattle

Serial No. 422,621. Published October 17, 1939. Class 6.

374,014. Pine Disinfectant. West Disinfecting Co., Long Island City, N. Y. Filed August 19, 1939. Serial No. 422,790. Published October 17, 1939. Class 6.

374,089. Insecticide Sprayers. S. H. Kress and Co., New York. Filed October 27, 1938. Serial No. 412,105. Published October 24, 1939. Class 23.

374,090. Cleaning Preparations. Berman Chemical Co., Toledo, Ohio. Filed November 2, 1938. Serial No. 412,283. Published October 24, 1939. Class 4.

374,096. Metal Polish. Nu-Met Chemical Corp., New York. Filed January 3, 1939. Serial No. 414,464. Published September 12, 1939. Class 4.

374,132. Polishing Cloths. Cadie Chemical Products Inc., New York. Filed June 2, 1939. Serial No. 420,090. Published October 24, 1939. Class 4.

374,172. Dental Cream. Colgate-Palmolive-Peet Company, Jersey City, N. J. Filed July 19, 1939. Serial No. 421,726. Published October 10, 1939. Class 6.

374,174. Soap Powder. Ammiel F. Decker, Pelham, N. Y. Filed July 21,1939. Serial No. 421,800. Published October 24, 1939. Class 4.

374,369. Combination set of a Mug and Soap. Shulton, Inc., New York. Filed May 26, 1939. Serial No. 419,885. Published October 31, 1939. Class 50.

374,391. Polish Applicator. Mildred A. Schneider, Los Angeles. Filed July 5, 1939. Serial No. 421,296. Published October 31, 1939. Class 29.

374,427. Polishing Cloths. Notions, Inc., New York. Filed July 31, 1939. Serial No. 422,147. Published October 31, 1939. Class 4.

374,444. Glass Cleaner. Jones Brothers Co., Chicago. Filed August 10, 1939. Serial No. 422,476. Published October 31, 1939. Class 4.

374,474. Household Cleanser. Steele-Wedeles Co., Chicago. Filed August 23, 1939. Serial No. 422,915. Published October 31, 1939. Class 4.

374,488. Soaps. Brillo Manufacturing Co., New York. Filed September 5, 1939. Serial No. 423,290. Published October 31, 1939. Class 4.

374,495. Cleansing Preparation. Clarence J. Herrett, Bremerton, Wash. Filed September 7, 1939. Serial No. 423,381. Published October 31, 1939. Class 4.

374,552. Shulton, Inc., New York. Filed April 21, 1939. Serial No. 418,543. Published November 7, 1939. Class 4.

374,559. Shaving Powder, etc. Shulton, Inc., New York. Filed June 6, 1939. Serial No. 420,200. Published November 7, 1939. Class 4.

374,583. Polishes. Cardinal Laboratories, Inc., Chicago. Filed August 18, 1939. Serial No. 422,735. Published November 7, 1939. Class 4.

374,584. Liquid Dry Cleaner. Davies-Young Soap Co., Dayton, Ohio. Filed August 19, 1939. Serial No. 422,773. Published November 7, 1939. Class 4.

374,706. Silver Polish and Laundry Soap. Tidy House Products Co., Des Moines, Iowa. Filed June 28, 1939. Serial No. 421,043. Published November 14, 1939. Class 4.

374,767. Shampoo Type Cleaner. Rich Laboratories, Indianapolis. Filed August 30, 1939. Serial No. 423,143. Published November 14, 1939. Class 4.

Drug Store Ass'n to Meet

The National Association of Chain Drug Stores will hold its convention at White Sulphur Springs, W. Va., May 23-25.

Foreign Trade Opportunities

Interested American firms may obtain the names and addresses of the foreign firms making these inquiries upon application to the United States Bureau of Foreign and Domestic Commerce, referring to the File No. indicated.

5467	Soap	Dublin, Ireland	agency
5543	Soaps, toilet, laundry and medical	Zurich, Switzerland	purchase and agency
5736	Soaps, toilet and household	Amsterdam, Netherlands	purchase
5829	Napthalene flakes and balls	Cairo, Egypt	purchase and agency
5932	Pyrethrum extract and chemical specialties	Montreal, Canada	agency

Stresses Use of Silicates

Soap in the presence of silicate is more effective than soap alone, according to the February issue of "Silicate P's and Q's," monthly publication of Philadelphia Quartz Co., Philadelphia. Supporting this information, the article presents data and evidence of tests conducted on soap with and without silicate. A recent series of tests, it is claimed, showed that the ability of tetrasodium pyrophosphate to increase the sudsing power of soap was doubled when silicate was present. Among other information contained in the article is a discussion of the effect of silicate in soap upon the dye number. Copies of the bulletin are available.

Rex Products Names McIlhenny

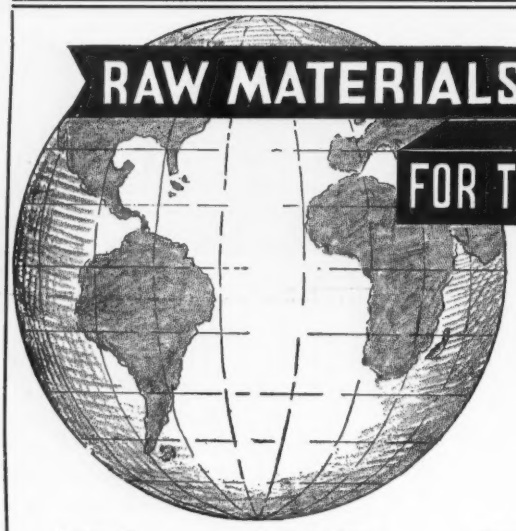
Detroit Rex Products Co., manufacturers of "Dextrex" solvent degreasers, alkali washers and cleaners, Detroit, recently announced the appointment of E. I. McIlhenny as manager of the alkali division. He will have charge of all sales and service of the company's complete line of alkali cleaners.

Hollwedel Joins Kingston Co.

Charles N. Hollwedel, long identified with sales of industrial chemicals, has joined the Kingston Chemical Co., New York. He was formerly New York branch manager for Joseph Turner & Co., and prior to that was associated with Warner Chemical Co. and with Grasselli Chemical Co.

Ballinger Joins George Senn

G. H. Ballinger, formerly connected with Commercial Distilling Co. and Commercial Solvents Corp., has joined the sales department of George Senn, oils and naval stores broker, Philadelphia.



RAW MATERIALS 1838-1940

FOR THE SOAP INDUSTRY

Oils Fats
Chemicals
Fatty Acids
White Mineral Oils
Petrolatums

FROM ALL PARTS OF THE WORLD

Mineral Oils — Petrolatums

Fatty Alcohols — Special Fatty Acids

Castor Oil	Olive Oil Foots	Fatty Acids	Grease	Modified Soda
Cocoanut Oil	Peanut Oil	Lard Oils	Lanolin	Silicate Soda
Corn Oil	Perilla Oil	Neatsfoot Oil	Caustic Soda	Metasilicate
Cottonseed Oil	Rapeseed Oil	Oleo Stearine	Soda Ash	Tri Sodium Phosphate
Palm Oil	Sesame Oil	Stearic Acid	Caustic Potash	Di Sodium Phosphate
Palm Kernel Oil	Soya Bean Oil	White Olein	Carbonate Potash	Chlorphyll
Olive Oil	Teaseed Oil	Tallow	Sal Soda	Superfatting Agent

WELCH, HOLME & CLARK CO., Inc.

563 GREENWICH STREET — ESTABLISHED 1838 — NEW YORK CITY

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PURE POWDERED SOAPS

Castile, U.S.P. Coconut, Pure White Neutral
Palm, Pure Castor, Pure

POTASH SOAPS

Complete line of Shampoos, Shampoo Bases, Liquid Soaps, Oil Soaps, Pine Scrub and Automobile Soap.

For the Trade

KRANICH SOAP COMPANY, Inc.

54 Richards Street — Brooklyn, N. Y.

Raw Material Markets

As of January 30, 1940

NEW YORK — The soap and sanitary chemical raw material market this period was marked by a downward trend in the oils, fats and greases list and by an upward price trend in the essential oil list. The chemical market, was quiet after the year-end period of price readjustments. Price quotations on pyrethrum and pyrethrum extract have shown a downward trend recently, possibly due to the increasing interest paid to synthetics in view of high pyrethrum prices. No price trend was indicated in the gum list, but in the wax list, carnauba eased off moderately from previous peak prices.

CHEMICALS

Alkalies

In the caustic soda and soda ash market a recession in the volume of business from the previous period was noted. Export business remained good. November exports of caustic soda totaled 30,541,133 pounds valued at $729,194 while exports of soda ash amounted to 27,555,063 pounds valued at $391,558.

Rosin

Price movements in the rosin market were upward this period with advances amounting to as much as 50 cents per barrel on some grades. Business, on the whole, was light and there is no anticipation of increased activity for the rest of this season. The new naval stores season opens in April. Offerings of dark grades were scarce while offerings of other grades were light.

Naphthalene

Although no price changes were noted in the naphthalene market this period, there was some evidence of seasonal pickup for the refined grades. There was nothing of importance taking place in the domestic crude market, while only a fair demand existed for imported crude. The refined grade in flakes is being quoted at 6¾ cents per pound.

OILS AND FATS

Coconut Oil

Prices in the coconut oil market have been steadily receding for the past few periods, and the period under review is no exception. Manila crude was dropped ¼ cent this period and sales of tanks, New York, are now taking place at 3⅜ cents, as compared to 3⅝ cents per pound last period. Prices on the Pacific Coast for tanks, futures, dropped ½ cent and are being quoted at 2⅞ cents per pound as against 3⅜ cents per pound the previous period. Business was quiet throughout the period and no material change was reported in the Far Eastern situation.

Olive Oil

Olive oil prices continued their downward movement this period and dropped to a low figure of 95 cents per gallon for the denatured oil in New York, and to 8⅜ to 8½ cents per pound for foots. This compared with last period's quotations of $1.00 to $1.05 for the oil, and 8½ to 8¾ cents per pound for foots. A better inquiry was noted throughout this period than previously.

Linseed Oil

The market for linseed oil developed an easier tone this period in the absence of any improvement in trade. Prices were lowered as much as 3 points in some quarters, but this hardly compensated for the 11 point rise of the previous period. Tankcars are generally being quoted at 10 cents per pound.

Tallow

The tallow market was somewhat more active this period, although such transactions as were reported did not involve important lots. Large consumers, for the most part, were inclined to hold off so far as prompt delivery tallow was concerned. Prices dropped another ¼ cent this period bringing special down to 5⅜ cents per pound and extra to 5½ cents per pound.

PERFUMING MATERIALS

Citronella Oil

The citronella oil market continued its erratic price movements this period with both Java and Ceylon materials moving downward. Java oil dropped 2 cents and is quoted at 42 to 45 cents per pound, while Ceylon oil stands at 43 to 44 cents per pound as compared to 46 to 47 cents per pound last period.

Petitgrain Oil

South American petitgrain oil moved higher in price this period advancing about 35 cents per pound. The new quotation is $1.50 to $1.60 per pound as compared to $1.15 to $1.20 per pound last period.

Camphor Oil

The camphor oil market retained its strong tone this period as shipments were few, small and irregular. It is believed in some sources that the situation will become even more acute with the abrogation of the United States trade pact with Japan, which may cut down sailings of ships to this country. Camphor, sassafrassy, advanced in price about 5 cents this period. It is now quoted at 38 cents per pound.

—— • ——

P & G Pays Extra Dividend

Directors of Procter & Gamble Company, Cincinnati, on January 10 declared an extra dividend of 25 cents and the regular quarterly dividend of 50 cents on common stock. Both payments will be made on and after February 15 to shareholders of record January 25. This is the second extra dividend in the current fiscal year, the other having been declared last November 15.

IMPORTANT NOTICE *to all* LIQUID SOAP MANUFACTURERS

Before going into the history of ONALIM SHAMPOO BASE, we wish to draw your attention to the analysis report in the box below.

TESTED AND APPROVED BY PROMINENT NEW YORK TESTING LABORATORY*

REPORT:

Volatile matter	43.21
Anhydrous soap	47.44
Free Alkali	0.00
Ash	0.45
Glycerine and undetermined matter	8.90
Sodium Salts	negligible trace
Potassium Salts	present
Physical constants of oil from soap.	
Saponification value	258
Iodine value	7.3
Solidifying point	16°C

COMMENT: We find this to be a pure soft soap made from cocoanut oil. It contains no soda, free acid, alcohol or foreign fat.

*Name of laboratory upon request.

IN MAKING HIGH GRADE LIQUID SHAMPOO — you need it —

IN MAKING HIGH GRADE LIQUID TOILET SOAPS — you have to have it —

IN MAKING LIQUID DENTIFRICE — you should have it —

Put up in 5, 10, 25, 65, 100 and 425 lb. drums.

Why continue buying common Soap Base when you can buy ONALIM SHAMPOO BASE at the same prices. By using ONALIM SHAMPOO BASE you are sure to be protected 100% on your finished product. ONALIM SHAMPOO BASE is made with only the pure Coconut Oil. All our raw materials are purified before used and each container is tested before going out of our laboratory. ONALIM SHAMPOO BASE gives plenty of suds-purity, and has a definite cleaning quality, and does not corrode your Soap Dispensers. Samples submitted without any obligations, in NATURAL—OPAL—MINT—PINE & TAR. Prices are the same in all colors.

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CAUSTIC POTASH — From American raw materials. Various forms and packages.

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CANDELILLA Lump and Flake.

CARNAUBA Lump and Flake.

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●

INNIS, SPEIDEN & CO.

ESTABLISHED 1816

P.S. Don't forget the 15th Annual Dinner of the Drug, Chemical Allied Trades, Thursday, March 14th, at the Waldorf-Astoria.

Raw Material Prices

(As of Jan. 30, 1940)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P. drums	lb.	$ .07¼	$ .07¾
Acid, Boric, bbls., 99½%	ton	106.00	138.00
Cresylic, drums	gal.	.68	.70
Low boiling grade	gal.	.68	.70
Muriatic, C. P., carboys	lb.	.08	—
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, bbls.	lb.	.29	.30
Anhydrous, bbls.	lb.	.30	.31
Alcohol, Ethyl, U.S.P., bbls.	gal.	4.55	4.58½
Complete Denat., SD 1, drums, ex.	gal.	.28½	.30½
Alum. Potash lump	lb.	.04	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls.	lb.	.08	—
Bentonite, 1, works	ton	—	16.00
Bentonite, 2, works	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	gal.	.66½	1.10
L. C. L.	gal.	.73	1.17
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U.S.P., drums	lb.	.09¾	.10¼
Creosote Oil	gal.	.13½	.14½
Feldspar, works (200 to 325 mesh)	ton	32.00	35.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	10.00	32.00
Glycerine, C. P., drums	lb.	.12½	.13
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.08¾	.09
Soap, lye, drums	lb.	.07¾	.08¼
Hexalin, drums	lb.	.80	—
Kieselguhr, bags	ton	No Prices	
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs	lb.	1.89	2.04
Naphthalene, ref. flakes, bbls.	lb.	.06¾	—
Nitrobenzene (Mirbane) drums	lb.	.08	.09
Paradichlorbenzene, bbls., kegs	lb.	.12½	.15½
Petrolatum, bbls. (as to color)	lb.	.04	.07½
Phenol (Carbolic Acid), drums	lb.	.13	.13¾
Pine Oils, bbls.	gal.	.53	.59
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.03½	.03¾
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, powder	100 lb.	3.50	4.50
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	5.75	6.70
Grade K to N	bbl.	6.75	6.80
Grade WG to X	bbl.	6.90	7.45
Wood	bbl.	4.60	6.25
Rotten Stone, pwd. bbls.	lb.	.08½	.10
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.17	—
Olive Castile, powder	lb.	.26	.30
Powdered White, Neutral	lb.	.19	.22
Olive Oil Foot, bars, 68-70%	lb.	.11	—
Green, U.S.P.	lb.	.09	—
Tallow Chips, 88%	lb.	.08¼	—
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.10	1.35
Car lots, in bulk	100 lb.	.95	—
Soda Caustic, cont., wks., solid	100 lb.	2.30	—
Flake	100 lb.	2.75	—
Liquid, tanks, 47-49%	100 lb.	1.95	—
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	15.00	15.60
Sodium Fluoride, bbls.	lb.	.07	.08¼
Sodium Hydrosulfite, bbls.	lb.	.16	.17
Sodium Metasilicate, ground	100 lb.	3.75	4.80
Crystalline	100 lb.	2.35	3.35
Sodium Pyrophosphate	100 lb.	5.10	5.55
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22	.28
Triethanolamine	lb.	.19	.20
Trisodium Phosphate, bags, bbls.	lb.	.022	.028
Zinc Oxide, lead free	lb.	.06⅛	.07¾

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.06⅜	Nom.
Castor, No. 1, bbls.	lb.	.13¼	.14
No. 3, bbls.	lb.	.12¾	.13½
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.03⅜	—
Tanks, Pacific Coast, futures	lb.	.02⅞	—
Copra, bulk, coast	lb.	.0185	—
Corn, tanks, mills	lb.	.06⅛	.06¼
Cottonseed, crude, tanks, mill	lb.	.07⅜	—
PSY, futures	lb.	.067	.072
Fatty Acids,			
Corn Oil, tanks	lb.	.09	.09¼
Coconut Oil, tanks	lb.	.10	.10¼
Cotton Oil, tanks	lb.	.08½	.08¾
Settled soap stock	lb.	.03	.03¼
Boiled soap stock, 65%	lb.	.04	.04¼
Foots, 50%	lb.	.01¾	.01⅞
Linseed Oil	lb.	12.7	13.3
Red Oil, bbls., dist. or sapon.	lb.	.08½	.09½
Tanks	lb.	.08	—
Stearic Acid,			
Double pressed	lb.	.12	.13
Triple pressed	lb.	.14¾	.15¾
Greases, choice white, bbls.	lb.	.05½	.05¾
Yellow	lb.	.05⅛	.05⅜
Lard, city	lb.	.0625	.0650
Linseed, raw, bbls.	lb.	.1060	.1100
Tanks, raw	lb.	.1000	.1020
Boiled, 5 bbl. lots	lb.	.1160	.1200
Olive, denatured, bbls., N. Y.	gal.	.95	.98
Foots, bbls., N. Y.	lb.	.08⅜	.08½
Palm, shipment	lb.	No Prices	
Palm, Kernel, shipment	lb.	No Prices	
Sesame Oil, drums	lb.	.11½	.11¾
Soya Bean, domestic, tanks, crude	lb.	.06	—
Stearine, oleo, bbls.	lb.	.06¼	.06½
Tallow, special, f.o.b. plant	lb.	.05⅜	—
City, ex. loose, f.o.b. plant	lb.	.05½	—
Teaseed Oil, crude	lb.	.12½	—
Whale, refined	lb.	.0910	—

D&O
ESTABLISHED IN 1798

ESSENTIAL OILS
and
. . . WAR !

THE war with its attendant fears and uncertainties has demonstrated dramatically the value of foreign connections which have been solidly cemented by generations of sound business relationship.

Having what amounts to a "first call" on available supplies, we have been able to meet a difficult situation with a minimum of inconvenience to our customers.

Soap makers who use "D & O" oils know that there has been and will be no relaxation of quality standards.

DODGE & OLCOTT COMPANY

180 Varick Street New York, N. Y.

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Plant and Laboratories . . . . Bayonne, N. J.

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MacNair-Dorland Co.
254 W. 31st St. New York, N. Y.

(As of Jan. 30, 1940)

Essential Oils

Almond, Bitter, U.S.P.	lb.	$2.00	$2.10
Bitter, F. F. P. A.	lb.	2.10	2.20
Sweet, cans	lb.	1.00	1.25
Anise, cans, U.S.P.	lb.	.73	.78
Bay, tins	lb.	1.20	1.35
Bergamot, coppers	lb.	4.25	4.50
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.85	.90
Crude, tins	lb.	.27	.28
Bois de Rose, Brazilian	lb.	1.60	1.65
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.55	.60
Cajeput, native, tins	lb.	.61	.62
Calamus, tins	lb.	8.00	8.25
Camphor, Sassy, drums	lb.	.38	Nom.
White, drums	lb.	.50	Nom.
Cananga, native, tins	lb.	1.75	1.80
Rectified, tins	lb.	2.20	2.25
Caraway Seed	lb.	3.00	3.25
Cassia, Redistilled, U.S.P.	lb.	1.35	1.40
Cedar Leaf, tins	lb.	1.00	1.05
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.42	.45
Citronella, Ceylon, drums	lb.	.43	.44
Clove, U.S.P., tins	lb.	1.38	1.43
Eucalyptus, Austl., U.S.P., cans	lb.	.60	.63
Fennel, U.S.P., tins	lb.	2.25	2.50
Geranium, African, cans	lb.	2.75	3.10
Bourbon, tins	lb.	2.75	3.10
Turkish	lb.	2.75	3.00
Hemlock, tins	lb.	1.00	1.25
Lavender, U.S.P., cans	lb.	2.50	5.30
Spike, Spanish, cans	lb.	1.20	1.25
Lemon, Ital., U.S.P.	lb.	3.10	4.00
Cal.	lb.	3.00	—
Lemongrass, native, cans	lb.	.80	.85
Linaloe, Mex., cases	lb.	1.50	1.60
Nutmeg, U.S.P., tins	lb.	1.90	1.95
Orange, Sweet, W. Ind., tins	lb.	2.45	2.50
Italian cop	lb.	3.00	3.75
Distilled	lb.	.90	—
California	lb.	1.60	—
Origanum, cans, teach	lb.	1.10	1.65
Patchouli	lb.	4.50	5.00
Pennyroyal, dom.	lb.	3.00	3.10
Imported	lb.	2.75	2.80
Peppermint, nat., cans	lb.	2.75	3.00
Redis., U.S.P., cans	lb.	3.00	3.25
Petitgrain, S. A., tins	lb.	1.50	1.60
Pine Needle, Siberian	lb.	1.20	1.25
Rosemary, Spanish, tins	lb.	.75	.80
drums	lb.	.70	.75
Sandalwood, E. Ind., U.S.P.	lb.	5.25	5.50
Sassafras, U.S.P.	lb.	1.20	1.25
Artificial, drums	lb.	.75	—
Spearmint, U.S.P.	lb.	2.20	2.25
Thyme, red, U.S.P.	lb.	1.35	1.40
White, U.S.P.	lb.	1.75	1.80
Vetivert, Bourbon	lb.	3.50	15.00
Ylang Ylang, Bourbon	lb.	5.75	6.50

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.30	$1.45
Amyl Cinnamic Aldehyde	lb.	2.00	2.25
Anethol	lb.	1.05	1.15
Benzaldehyde, tech.	lb.	.55	.60
U.S.P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.60	1.85
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	2.75	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.85	Nom.
Eugenol, U.S.P.	lb.	2.25	3.30
Geraniol, Domestic	lb.	.60	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	3.00	3.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	2.50	4.15
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	3.30
Linalyl Acetate	lb.	2.50	2.75
Menthol	lb.	3.00	3.35
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.65	3.95
Ketone	lb.	3.70	4.10
Xylene	lb.	1 05	1.20
Phenylactaldehyde	lb.	2.10	2.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.50	3.35
Rhodinol	lb.	5.55	10.80
Safrol	lb.	.70	.75
Terpineol, C. P., 1000 lb. drs.	lb.	.25	—
Cans	lb.	.28	—
Terpinyl Acetate, 25 lb. cans.	lb.	.82	.85
Thymol, U.S.P.	lb.	1.55	1.60
Vanillin, U.S.P.	lb.	2.50	2.65
Yara Yara	lb.	1.25	1.55

Insecticide Materials

Insect Powder, bbls.	lb.	.33	.35
Pyrethrum Extract			
5 to 1	gal.	1.65	1.80
20 to 1	gal.	6.20	6.50
30 to 1	gal.	9.20	9.60
Derris, powder—4%	lb.	.18	.22
Derris, powder—5%	lb.	.24	.28
Cube, powder—4%	lb.	.20	.21
Cube, powder—5%	lb.	.24	.25

Gums

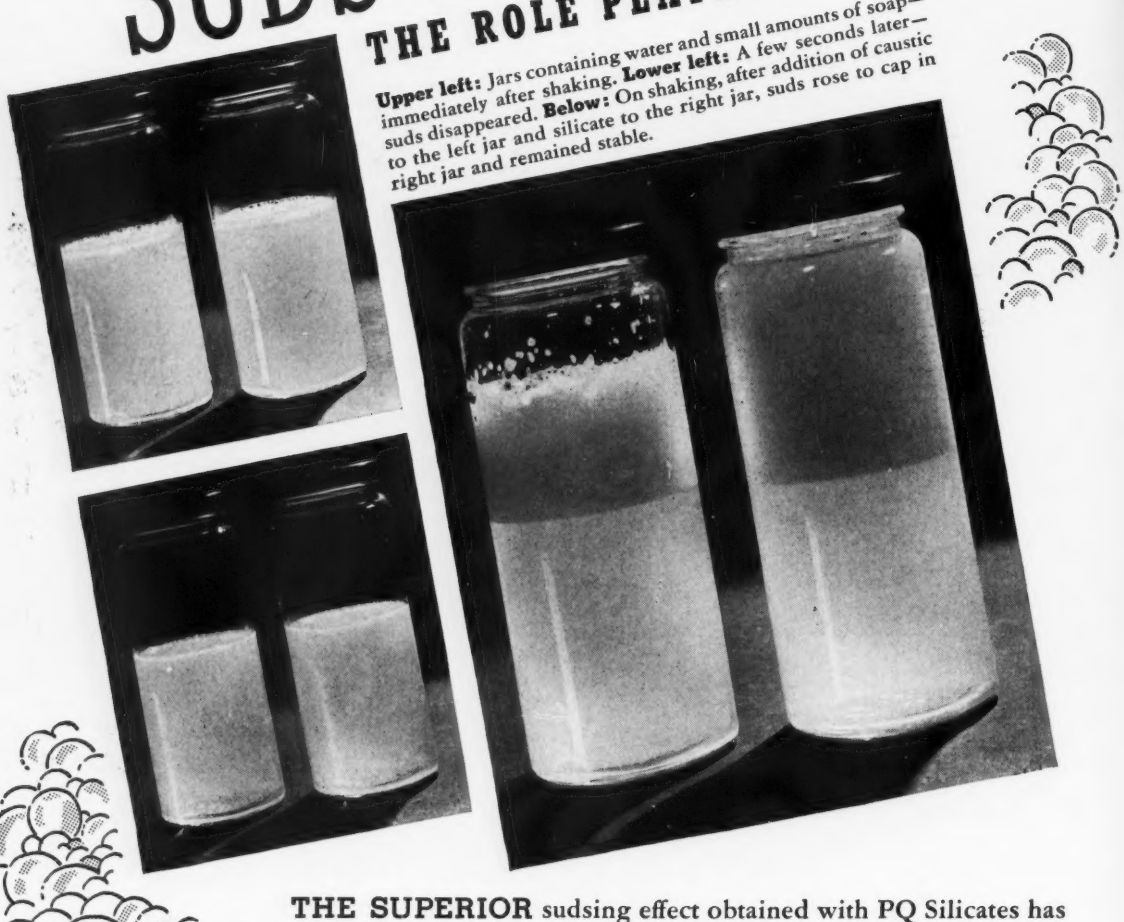
Arabic, Amb. Sts.	lb.	.14½	.15
White, powdered	lb.	.17½	.18
Karaya, powdered No. 1	lb.	.14	.23
Tragacanth, Aleppo, No. 1	lb.	2.65	2.70
Flake	lb.	No Prices	

Waxes

Bees, white	lb.	.38	.39
African, bgs.	lb.	.27	.27½
Refined, yel.	lb.	.31	.36
Candelilla, bgs.	lb.	.18½	.19
Carnauba, No. 1	lb.	.69	.70
No. 2, N. C.	lb.	.68	.69
No. 3, Chalky	lb.	.43	.44
Ceresin, yellow	lb.	.13	.15
Paraffin, ref., 125-130	lb.	.0675	.0680

SUDS BUILDING....

THE ROLE PLAYED BY SILICA



Upper left: Jars containing water and small amounts of soap—immediately after shaking. **Lower left:** A few seconds later—suds disappeared. **Below:** On shaking, after addition of caustic to the left jar and silicate to the right jar, suds rose to cap in right jar and remained stable.

THE SUPERIOR sudsing effect obtained with PQ Silicates has been well known for decades. It's the soluble silica content that has proved the detergent and soap manufacturer's trusty aid. For greater efficiency, greater economy, greater usefulness under a wide variety of soil, water and temperature conditions, leading manufacturers rely on the soluble silica in PQ Silicates.

Irrespective of other ingredients used, more sudsing action can be secured in the presence of soluble silica. The photo above illustrates the comparative sudsing of a PQ Silicate and another alkali.

A series of important measurements has been recorded of the value of the alkali-silica combination in cleansing processes. Ask for Bulletins No. 170 and No. 466.

PHILADELPHIA QUARTZ COMPANY

General Offices: 125 S. Third St., Philadelphia. Eight convenient plants. Chicago Sales Office: 205 W. Wacker Dr. Sold in Canada by National Silicates, Ltd.

PQ SILICATES OF SODA

Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Working Up Soap Waste

ONE class of soap waste includes that from colored toilet soap as well as soap chips and toilet soaps which have turned rancid. These can be recovered economically by the following treatment. After thorough cleaning of the soap kettle transfer 200-300 kg. of 40° Be. caustic soda to it, then add the soap which has turned rancid. After the soap has melted boil for 1-2 hours. Then add colored non-rancid soap waste slowly. Too much should not be added at a time as it may be hard to bring into solution. If it cannot all be melted in one day it is left to stand overnight and some water added, when it should melt more easily.

The next day the boiling process is started until all the recovered waste is melted. When this is the case excess alkali is neutralized with coconut oil or coconut oil fatty acids and the soap salted out. A large amount of salt will be needed as the soap is thin-flowing. Salting out must be very strong so that the lower layer will not set to a jelly.

The kettle is allowed to remain at rest for 2-3 hours, after which the first underlayer of niger of a dark brown color is drawn off. As soon as this operation is finished the kettle is again brought to the boil. One or two kg. of soap bleach is added, according to the amount of soap, and boiling continued for 2 hours. The soap is again salted out with a strong salt liquor. When the curd has separated sufficiently add 200-300 kg. of dilute salt liquor to make it thin flowing. Let stand overnight for further separation. On the following day the niger is drawn off. On boiling up the soap, it can be determined from its color whether it is still too dark and whether it may still need to be salted out two or three times further.

When the niger is no longer brown but light in color, graining can be begun by means of salt water or dilute caustic soda solution. The soap should be so treated that impurities settle out easily. The soap is left for two days and three nights after which it should have a good light color and a small salt content, ready for the usual further steps. While the soap will not be pure white in color it is suitable for the preparation of colored toilet soap.

Soap containing mechanical impurities is somewhat harder to treat. The soap kettle should be thoroughly clean to start with. Strong salt liquor is transferred to it, a few kg. of solid salt added and the solution brought to boiling. If the soap waste contains particles of paper and wood these must first be removed as they cannot be separated after introduction into the kettle. The worst contaminated soap is added to the kettle first. The process is time consuming and should be carried out in conjunction with other soap boiling. Too much waste should not be added at a time. Underlye from other soap manufacture may be used for salting out after such liquor has been evaporated to a more concentrated solution. The soap is salted out twice, strong clear salt solution being used where desired.

After this the soap is let stand for two nights and a day. The niger is stirred up with a little steam each time before being drawn off so that impurities on the bottom will mix in and flow out with the liquid.

When one is satisfied that further salting out will not lighten the color of the soap, the process of graining begins. After the niger has been drawn off, the soap is again brought to boiling and strong caustic soda solution added and again separated. Boiling is continued for two hours. When the soap has separated well, 1-2 kg. of soap bleach is added and the mixture boiled. The soap is then allowed to remain at rest for 2-3 hours. The kettle should be examined after a half hour to see if any separation has occurred and any bottom layer which has formed should be drawn off immediately. The soap should be lightened appreciably by this treatment. Not all of the lye has settled out at the end of 2-3 hours but the soap has formed curds. Hot water containing a little lye is added until the soap is thin-flowing and smooth. Water is added until samples removed on a spatula run off in large thin sheets and leave only a very few dry

spots. The kettle is then covered well and allowed to stand for two days and three nights.

The soap is then suitable for further working up as household soap unless it contained first class fat stock to start with, when it could possibly be worked up into toilet soap. However it is apt to be dark in color, but such recovered soap from scrap and waste represents a considerable saving of fat stock. Heinz Zilske. *Seifensieder-Ztg.* **66,** 819-20, 830 (1939).

Dry Cleaning Solvent

Perchloroethylene was developed to replace carbon tetrachloride and trichloroethylene as a dry cleaning solvent. Trichloroethylene has the disadvantage of removing color from cellulose acetate fabrics when warm; perchloroethylene does not have this disadvantage. The product is best used in closed-type machines especially designed for this liquid, or in older machines especially converted to its use. The stability of the product to water and metals is similar to that of trichloroethylene, being superior to that of carbon tetrachloride. N. C. Copper. *Textile Colorist* **61,** 811-13 (1939).

Relative Detergency

Detergency involves not only the removal of soil but also the prevention of its subsequent re-deposition upon the surface being cleansed. Optimum conditions for dirt removal are not necessarily those required for the efficient prevention of re-deposition. A study of the suspending power of various detergents was made in which the darkening of samples of white cotton fabric was measured photometrically after the fabric had been shaken in a suspension of solid particles under standardized conditions.

Simple alkalies such as soda ash and caustic soda cause an increase of deposition which can be attributed to a sodium ion effect rather than to any pH effect. Certain sodium silicates and phosphates exhibit a very considerable protective action which is attributed to selective adsorption of the anion. In the case of sodium hexametaphosphate and sodium pyrophosphate the protective action was still appreciable at concentrations as low as 5-10 p.p.m.

With sodium laurate, sodium stearate and sodium oleate the optimum protective action is reached at concentrations which decrease rapidly with increasing chain length. Addition of 0.1 per cent soda ash to the soaps decreases protective action. Detergents of the long-chained alkyl sulfate type were found to possess relatively low protective action. J. Powney and R. W. Noad. *J. Textile Institute* **30,** 1157-71 (1939).

Emulsifying Agents

An unrefined mineral oil is treated with a solvent such as liquid sulfur dioxide, that has a preferential solvent action for the olefinic and aromatic constituents. The extracted material is treated with a sulfonating agent in the presence of liquid sulfur dioxide as a solvent. The products may be neutralized with soda, ammonia, lime or triethanolamine. They are useful as textile assistants, detergents and emulsifying agents. They may be improved by further processing of the materials to be sulfonated; the starting materials may be fractionated before or after extraction and acidic and basic impurities may be removed. They may also be improved by extracting with gasoline or other low-boiling solvent and removing inorganic sulfates by means of a solvent such as propyl alcohol. Robert L. Brandt to Colgate-Palmolive-Peet Co. British Patent No. 506,337.

Reconditioning Dry-cleaners

Used dry-cleaning solvents are agitated with an aqueous soap solution having an alkaline reaction to form an unstable emulsion. Apparatus is described wherein the used solvent such as trichloroethylene passes from a dry-cleaning chamber through a filter to an emulsifier where it is agitated with alkaline soap solution from a tank, the agitation being effected by internal projecting elements on a rotor or by agitated finely divided quartz. The resulting emulsified mixture passes to a separating device consisting of a settling tank with a vertical overflow partition. Lars H. Bergman and Horace G. Waite. British Patent No. 506,078.

Testing Ketone Rancidity

Taufel and Thaler's procedure was used to study the color reactions of 12 substituted salicylaldehydes and 3 substituted *p*-hydroxybenzaldehydes with 0.1 per cent and 0.01 per cent solutions of methyl *n*-heptyl ketone in paraffin oil, ketone-rancid sesame, rape, olive and coconut oils, and ketone-free soybean oil. The following compounds were the only ones which could be used to detect ketone rancidity; acetyl salicylaldehyde and the 2-ring-substituted salicyladehydes containing a methyl or methoxy groups in the *meta* position to the hydroxyl group. The sensitivity limit is about 0.01 mg. per gram of fat. E. Glimm and A. Semma. Fette und Seifen **45,** 500-3.

Soap Phases

In the transformation of anhydrous sodium palmitate from crystal to liquid, five successive phases exist between 70 and 300° C. These are curd fibers over 117°, subwaxy soap to 135°, waxy soap to 208°, subneat soap to 253°, neat soap to 292°, and isotropic liquid above 292° C. These states are considered as successive stages of melting intermediate between crystal and liquid and may be formed during soap manufacture and persist for long periods. Robert D. Vold and Marjorie J. Vold. *J. Am. Chem. Soc.* **61,** 808-16 (1939).

Spent Decolorizing Earth

Although extraction with gasoine gives somewhat higher fat recovery, the electrolyte method is recommended for recovering fat from spent decolorizing earth in hardening fats. Aside from the lower cost of aqueous systems, the power requirement is lower and there is less consumption of steam and water. E. Chufarovskaya. *Masloboino Zhirovoe Delo* **1939,** No. 3, 16-17; through Chem. Abs.

Fatty Acid Soaps

SOAPS equal in quality to those made from neutral fat are now being made from distilled fatty acids. For those soft soaps where color is not of the utmost importance, there need be no hesitation to use the simple Twitchell plant for fat splitting, recover the glycerine, and make the soap directly from the fatty acids. If color has to be considered, no matter what process of splitting is employed the split fatty acid must be purified by distillation. One efficient vacuum still is heated by high-pressure steam at 1500 pounds per square inch, and operates under a vacuum of about 4 mm. This still operates on a continuous system and is so arranged that only a very small amount of fatty acid is in the still at one time. This, coupled with the fact that the distillation temperature is about 100° C. below that in a fire-heated still, enables distilled fatty acids to be obtained with a remarkable degree of whiteness and freedom from odor.

An economy in the saponification of fatty acids is the use of soda ash. Some skill and experience is required in this to overcome the difficulties associated with the evolution of carbon dioxide and consequent frothing. A solution of the necessary amount of soda ash,—85 per cent of the total required for saponification,—in twice its weight of water, is prepared. Half this charge is run into the soap pan and half the fatty acid charge is then run in slowly and the mass kept actively agitated with open steam, and if possible with air also. Sufficient salt is added to maintain a strength of 2 per cent in the fat charge, although with coconut oil, etc., this should be increased to 5 per cent. The remainder of the fatty acids is then pumped in and the rest of the carbonate added by spraying it over the surface so that it does not fall to the bottom of the pan. The carbonate saponification is soon completed, when all tendency to foam will cease. Caustic soda in sufficient amount for the remainder of the saponification is added and the soap brought up to good strength and finished with the gradual addition of water. Archibald Rayner. *Soap Perfumery & Cosmetics* **12,** 898-900, 902 (1939).

◆

Refining Hardened Fats

The efficiency of freeing hardened fats from residual copper-nickel catalyst by treatment with sulfuric acid is impaired by emulsification. Aside from organic emulsifiers which may be present, colloidal copper is much more active as an emulsifier than is the nickel component of the catalyst. It was found by laboratory tests and confirmed in factory practice than an active oxidizing agent inhibits emulsification in the acid treatment. About 9.1 per cent of potassium dichromate, calculated on the amount of hardened fat, is sufficient to give the desired effect. M. Yakubov. *Masloboino Zhirovoe Delo* **1939,** No. 3, 17-18; through Chem. Abs.

◆

Fatty-acid Soap Deterioration

The frequently observed unsatisfactory storage behavior of soaps prepared from distilled fatty acids has several probable causes. These include: (1) the presence of high proportions of easily oxidized unsaponifiable substances such as sterols in the fatty acids, (2) high isoöleic acid content, and (3) the presence of prooxidants such as certain Twitchell-reagent components. F. Witka. Seifensieder-Ztg. **66,** 153, 187 (1939).

◆

Rancidity of Lard

Alteration of hog lard is preceded by an induction period during which no chemical criterion of change is noticeable. This induction period may last 100 days or less, or even 10 months; it is probably caused by the presence in freshly prepared lard of an antioxidant substance. After this is destroyed, fixation of oxygen as peroxide takes place increasingly.

The relative preservative qualities of phenols examined are, in decreasing order, pyrogallol 100, pyrocatechol 70, hydroquinone 67.5, *alpha*-naphthol 62.1, thymol 24.3, resorcinol 8.1, phenol 0, *beta*-phenol 0 and phloroglucinol —2.7. F. Morvillez, P. Balatre and L. Pujo. *J. pharm. chim.* **29,** 159-66, 202-9 (1939); through Chem. Abs.

◆

Synthetic Fatty Acids

In the production of fatty acids from paraffin hydrocarbons presumably the paraffin chain splits in two by oxidation, giving two molecules of fatty acid per molecule of paraffin. The fatty acids obtained, however, are not necessarily those most desirable for soap making, as some of them will be short-chain and some long-chain. Analysis of a synthetic fatty acid distillate showed the following composition:

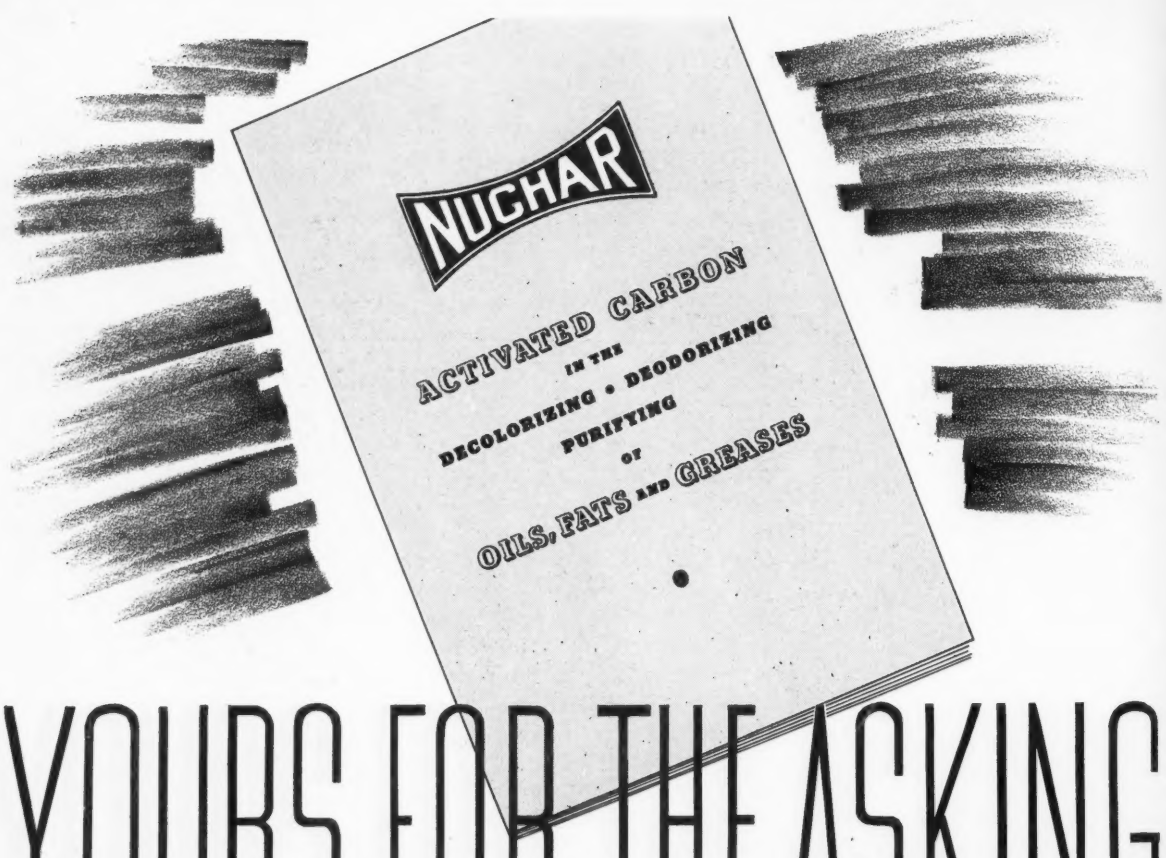
	Per Cent
Caprylic acid	0.2
Pelargonic acid	1.6
Capric acid	4.1
Undecanoic acid	8.0
Lauric acid	11.9
Tridecanoic acid	13.5
Myristic acid	14.3
Pentadecanoic acid	14.8
Palmitic acid	10.9
Heptadecanoic acid	7.5
Octadecanoic acid	6.4
Acids over C_{18}	6.8

The theoretical yield for the splitting of a paraffin molecule of 34 carbon atoms in half is about 112 per cent but the practical yield is only 80 per cent, showing a loss of important material to the extent of 30 per cent. Walther Schrauth. *Allgemeine Oel- und Fatt-Ztg.* **36,** 413-19 (1939).

◆

Reactivating Catalysts

From a comparative study of reactivation methods for recovering spent copper-nickel catalyst in oil hardening the effects of sulfuric acid and of air blowing were investigated. The preferred procedure, developed from these tests, is to introduce spent catalyst corresponding to 35-40 kg. of metal, and twice the theoretical amount of sulfuric acid of 30 per cent strength, into the reactivation chamber. The mixture is blown with air and steam for 18-20 hours. After standing from 1-2 hours the fat layer is removed and the catalyst recovered. M. Guseva. *Masloboino Zhirovoe Delo* **1939,** No. 3, 13-16; through Chem. Abs.



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Products and Processes

New Form of Soap

Oil or fat is split in a continuous autoclave operation and the hot fatty acids, at a temperature of 250-400° F., passed together with water into a mixer where they meet a continuous stream of caustic soda solution or other saponifying agent in the right proportion for saponification. The resultant soap is sprayed through a nozzle into a cooling and drying chamber. A new form of comminuted soap is thus produced, which is claimed to have very desirable properties, being moderately dense, with a fairly high water content, and being readily soluble in water. Procter & Gamble Co., U. S. Patent No. 2,159,397.

Gelatin in Soap

Gelatin can be added in small proportions to soap as a filling agent and has the advantage of increasing soap stability and helping to maintain a favorable moisture equilibrium. Because of the greater hardness of soap containing gelatin the cooling time in the forms can be shortened. In toilet soap 0.5 per cent of gelatin is used, in liquid soaps, 0.1-1 per cent of glycogelatine. The latter is a mixed product containing glycerine, gelatin and water. The mixture increases the stability of the liquid soap besides making it milder and more emollient in effect. Shaving soaps containing gelatin show increased sheen. T. Ruemele. *Seifensieder-Ztg.* **66,** 839 (1939).

Cleansing Pads

The impregnation of flannel pads with a carefully compounded, nonfermenting cleansing lotion has proved practicable. Such pads, packed in flat glass jars or nonreacting plastic containers have already proved their worth to the feminine public. There seems to be no reason why a slightly revised version, devised and dressed in appropriately masculine style, should not prove equally popular with men. Wartime conditions call for a convenient form and handy package of cleanser more suitable than an ordinary cake of soap for carrying in a haversack.

A somewhat larger size of pad is suggested than that for feminine use, impregnated with a mentholated Cologne type of lotion and styled "Service soap Pads—Need no soap, water or towel." Basic formulae for cleansing lotions suitable for impregnating such pads are:

	A	*B*
	Per Cent	*Per Cent*
Sulfated fatty alcohol	1.5	..
Sulfonated castor oil	...	30
Hygroscopic agent	20.0	25
Boric acid	0.5	1
Witchhazel extract	...	10
Distilled water	78.0	34

The triethanolamine salt of a commercial fatty alcohol sulfate is one of the most suitable soapless detergents. Other possible cleansing agents include triethanolamine, glyceryl- and glycol stearates. Hygroscopic agents include glycerine, diethylene glycol, sorbitol syrup and carbitol. Inclusion of fats makes difficult the problem of preservation. Perfume should be selected for its stability. The quality and sterility of the pads themselves is important, as well as their impregnation and packaging in hygienic surroundings. Joseph M. Vallance. *Soap, Perfumery & Cosmetics* **12,** 909-12 (1939).

Synthetic Fats

Synthetic oils or fats suitable for edible purposes are obtained by esterifying with glycerine fatty acids which have been obtained by oxidation of high-molecular weight paraffin hydrocarbons at a temperature below 140° C. The fatty acids are freed from low-boiling and high-boiling constituents before the esterification, that is, from acids having up to 10 and above 20 carbon atoms in the molecule, and from acids containing hydroxy and keto groups and lactones. The separation may be by fractional distillation of the crude acid mixture under reduced pressure. The acids may be hydrogenated in the presence of nickel to reduce hydroxy and keto groups and the esterification may be conducted in the presence of a small quantity of acid, zinc, magnesium, aluminum, tin or tin oxide.

The esters may be bleached and treated with caustic soda solution or steam. Low molecular weight fatty acids having an even number of carbon atoms such as are present in natural fats may be used with the acids of higher molecular weight. Mixed glycerides may also be obtained by heating the above glycerides with glycerides of the low molecular weight fatty acids. I. G. Farbenindustrie A.-G. British Patent No. 506,092.

Semi-boiled Soap

Production of an emulsion in making soap by the semi-boiled process is much the same as in the cold or in the boiled processes, except that in the first case the temperature is maintained at 60-90° C. If neutral fats are used the mass is stirred after introduction of the lye until saponification starts. The kettle can then be covered and allowed to stand at rest when saponification is completed by the self-heating of the mass as it reacts. When fatty acids are used these are warmed and allowed to flow into hot lye. A steam-heated or water-bath kettle is suitable in both cases so that the temperature can be easily controlled. Formula: 70 parts of tallow, 30 of coconut oil, or 30 of tallow, 30 of hardened fat, 25 of coconut oil or palm-kernel oil, and 15 parts of lard. A 38° Be. lye is used, 48.5 parts in the case of neutral fats or 48 parts of the same concentration, with fatty acids. *Seifensieder-Ztg.* **66,** 842 (1939).

Oil from Rice Refuse

An average oil content of 17 per cent was found in Bulgarian rice refuse meal. The rice oil must be mixed with other oils rich in saturated acids in order to make it useful for the manufacture of hard soaps. N. Ganchev. Ann. univ. Sofia. V. Faculte agron. sylvicult. **16,** 430-42; through Chem. Abs.

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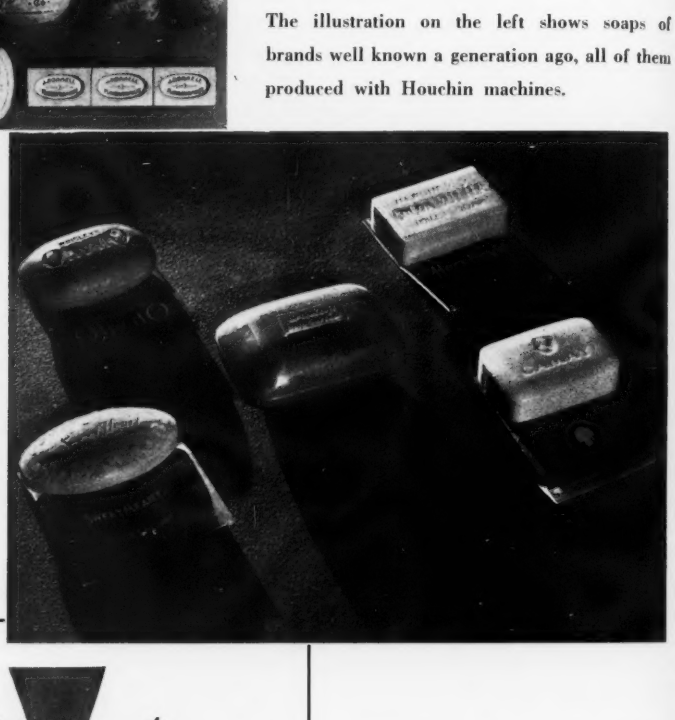
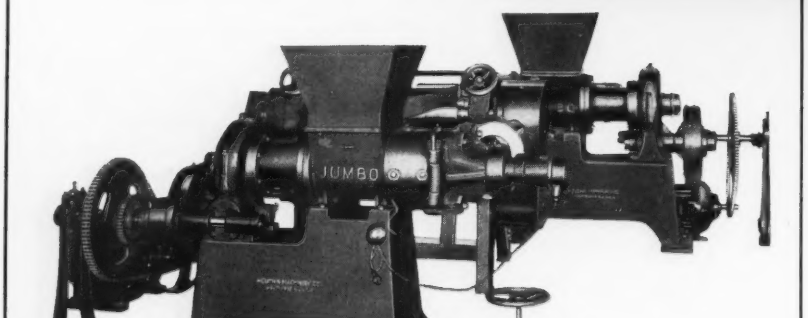
The illustration on the left shows soaps of brands well known a generation ago, all of them produced with Houchin machines.



–and Today

Houchin machines are now used in the manufacture of the soaps shown at the right, as well as of scores of others, some of which will be shown in subsequent advertisements.



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665—Vacuum Filling Machine

Modern Packaging Machinery Co., Danville, Ill., has just announced a new model rotary vacuum filling machine for powdered material. The machine is equipped with a variable speed drive and is said to fill from 40 to 240 containers per minute depending upon the size of the machine. Literature on the equipment is available.

666—Alkali Solutions Tester

Industrial Instruments, Inc., Bayonne, N. J., are in production on a new device known as the "Solu-Bridge" alkali solutions tester. The instrument is said to furnish an accurate, rapid system for the testing and control of many industrial solutions, by the electrical conductivity method. Bulletins on the subject are available.

667—Building Maintenance

Flexrock Co., Philadelphia, has just issued a new, completely revised edition of "Handbook of Building Maintenance." The booklet, which contains 68 pages, is said to be a ready reference for all those interested in the maintenance of industrial buildings and structures.

668—Washroom Service Book

Scott Paper Co., Chester, Pa., has just published a new booklet "Scientific Washroom Service," which is said to be based on a study of industrial, public and institutional washroom installations. The recommendations which the booklet contains are aimed to help in providing improved washroom service. Copies are available.

669—Emery Industries Booklet

Emery Industries, Inc., Cincinnati, has published a new booklet "Emery Facts" which marks the company's 100th anniversary. A brief history of the company is included, in addition to complete descriptive material concerning Emery products.

670—Brush Catalog

The Flour City Brush Co., Minneapolis, has issued a catalog showing a complete line of brushes and miscellaneous supplies for the janitor trade. Copies are available.

671—Shipping Box Check Chart

Hinde & Dauch Paper Co., Sandusky, O., has just completed a check chart method of evaluating the effectiveness of corrugated shipping boxes. Ten basic elements are listed in the chart. They are: information, fitness, design, simplicity, impression, attention, color, display, merchandising and engineering. Rating of packages may be had by writing to the company's Sandusky offices.

672—Casein Products Booklet

Casein Co. of America, division of the Borden Co., Bainbridge, N. Y., has recently issued a new booklet describing the company's "Protovac" modified casein and caseinate products. These modified caseins and caseinates are said to have new and different properties than regular casein due to the remanufacturing process used. The booklet, in addition to describing each "Protovac" product, lists suggested uses also.

673—New Fumeral Bulletin

Fumeral Co., Racine, Wis., has just issued a new bulletin No. 1940, "A Modern Sanitation System". The bulletin contains illustrative and descriptive material on the "Fumeral" instant diffuser.

For studying the behavior of fats and oils at low temperatures the fat is dried at a temperature slightly below 105°C. or with calcium chloride, filtered through dry paper and placed in a Stelling apparatus surrounded by a cooling mixture. The apparatus is evacuated or the fat stirred with a current of air. In the range of 0-10°C. the cooling curve is observed, the appearance of opacity, and the solidification of fatty acids. S. Zhuravlev. *Tech. Hlidka Kozeluzska* **15,** 69-70 (1939); through Chem. Abs.

Improved Soft Soap

Liquid potash soap is improved by adding a fused mixture of 40 molecular per cent of sodium metaphosphate and about 60 molecular per cent of potassium metaphosphate. Chemische Fabrik Joh. A. Benckiser G.m.b.H. and Fritz Draisbach. German Patent No. 678,841.

Castor Oil in Soap

A small proportion up to about 10 per cent, of castor oil can be used in soap stock, but saponification is slow and the lathering power of castor-oil soap is poor. V. Moiseev. *Masloboino Zhirovoe Delo* **1939,** No. 2, 26; through Chem. Abs.

Moth Products

Laboratory tests on clothes moths showed paradichlorobenzene to be more toxic to moths, larvae and eggs than naphthalene or hexachloroethane. The last is less toxic than naphthalene even though it vaporizes faster. The relative rates of vaporization are, taking naphthalene flakes as unity: naphthalene balls 0.225, naphthalene flakes 1, naphthalene crystals 1.03, hexachloroethane crystals 7.96, paradichlorobenzene granular crystals 16.6. The last should be used for packing clothes in air-tight storage chests. If the material is to be stored for a long period of time naphthalene balls should be used in conjunction with paradichlorobenzene. Walter Frey. Arb. physiol. angew. Entomol. Berlin-Dahlem **6,** 189-97 (1939); through Chem. Abs.

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No. 2,182,137, Soda Soap Grease, Patented December 5, 1939 by Vernon L. Ricketts, Martinez, Calif., assignor to Shell Development Company, San Francisco, Calif. A soda soap grease comprising a viscous mineral oil and a soda soap of an acid selected from the group consisting of higher fatty acids, naphthenic acids and mineral oil sulfonic acids, the grease containing a minor proportion of an alkali metal salt of an organic carboxylic acid containing an aromatic ring to prevent bleeding.

No. 2,182,767, Phosphatides from Soap Stock, Patented December 5, 1939 by Benjamin H. Thurman, Bronxville, N. Y., assignor to Refining, Inc., Reno, Nev. The process of recovering phosphatides, which comprises, treating soap stock, resulting from the alkali refining of phosphatide containing vegetable oils and containing a material consisting essentially of phosphatides and a material consisting essentially of soap, with a solvent for only one of the materials, separating the undissolved material from the solution to separate the soap from the phosphatides, and further treating the material containing the phosphatides to purify the phosphatides.

No. 2,183,037, Germicidal Detergent, Patented December 12, 1939 by Milward Bayliss, Hurlock, Md., and John L. Wilson, St. Paul, and Erling J. Ordal, Minneapolis, Minn., assignors to Economics Laboratory, Inc., St. Paul, Minn. A germicidal detergent composition containing a major proportion of buffer salts and containing a relatively small proportion of a mixture of active sulfonated wetting agents, including a sulfonated alcohol wetting agent, the composition being adapted when dissolved in water in amounts ranging from one-half to 3 per cent to form a germicidal detergent solution containing a small fraction of 1 per cent of the wetting agents with a sufficient amount of the alkaline salts to give a pH value in excess of about 11.5.

No. 2,183,493, Germicidal Composition, Patented December 12, 1939 by Mahlon J. Rentschler, Willoughby, and Donald B. Bradner, Hamilton, Ohio, assignors to the Hamilton Laboratories, Inc., Hamilton, Ohio. An improved germicidal preparation consisting of a solution of a phenyl mercuric salt and a tribasic inorganic acid, the tribasic inorganic acid being present in greater proportion than the phenyl mercuric salt, and in an amount sufficient to stabilize the phenyl mercuric salt against deterioration by age.

No. 2,184,171, Washing Composition, Patented December 19, 1939 by Kurt Sponsel, Wiesbaden-Biebrich, and Karl Daimler, Frankfort-on-the-Main-Hochst, Germany, assignors to Kalle & Co., Aktiengesellschaft, Wiesbaden-Biebrich, Germany. A washing composition comprising in admixture a wetting agent selected from the group consisting of the alkali metal salts of naphthalene sulphonic acids and the substitution products thereof and a water soluble cellulose ethyl ether β sulphonate.

No. 2,184,951, Mothproofing Detergent Composition, Patented December 26, 1939 by Hermann Stotter, Leverkusen I. G. Werk, and Theodor Hermann, Frankfort-on-the-Main-Hochst, Germany, assignors to Winthrop Chemical Company, Inc., New York, N. Y. A mothproofing detergent composition consisting essentially of an acid soapy washing agent in preponderating proportion and triphenyl-dichloro-benzyl phosphonium chloride, the composition being at the most only slightly colored in the dry state, being soluble in water, and being adapted for simultaneously cleaning and rendering mothproof wool, feathers, hair and like materials.

Reissue **No. 21,307,** Soap Holder and Applicator, Patented December 26, 1939 by Leland J. Arms, San Francisco, Calif. A combination soap holder and applicator comprising a body portion formed of a permeable material and having a compartment formed therein for the reception of a cake of soap, and a rigid plate secured in one side of the body, and having an elongated opening formed therein in communication with the compartment through which a cake of soap of similar shape is insertible.

Hand Paste

A hand paste which contains neither soap nor fat should be somewhat alkaline in reaction, corresponding to not over 0.5 per cent of caustic soda. This alkalinity can be obtained by the use of such salts as potash, soda ash, waterglass, sodium metasilicate, etc. Foaming can be produced by the inclusion of special foaming agents. Colloidal clay has also some cleansing action due to its adsorptive power. For such a paste a mixture is prepared of 5 parts of Bentonite, 3 of pumice, 2 of wood flour, and a solution of 1 part of saponin, 1 of potash, 1 of starch and 7 parts of 30° Be. waterglass. *Seifensieder-Ztg.* **66,** 812 (1939).

Saponification Reaction

As essential condition for soap formation is intimate contact between the fat and the caustic soda solution. This can be accomplished (1) by emulsifying the fat in a dilute hot solution of caustic, or (2) by emulsifying cold relatively concentrated caustic soda solution in the fat. The two sets of processing conditions are such that soap acts to stabilize the oil-in-water type of emulsion in the hot process and the water-in-oil type in the cold process. L. Lascaray. *Feete und Seifen* **46,** 531-3 (1939).

Water Softening

A study of the theoretical limits of the lime-soda method of water softening shows that under specific conditions water of hardness as low as 10-15 p.p.m. may be produced. The beneficial effect of the use of sodium aluminate in water softening is due to an increase in caustic alkalinity and colloidal coagulating action rather than to the formation of insoluble aluminates. The presence of small amounts of colloidal silica is beneficial to coagulation. T. E. Larson and A. M. Buswell. *Ind. Eng. Chem.* **32,** 130-2 (1940).

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Cold Process Soaps

(*From Page* 31)

ring mineral salt containing salts of sodium, potassium, lithium, calcium, strontium, etc. and shown by test to possess one-eighteenth of the radioactivity of uranium acetate. A cold-made coconut soap was selected for this purpose, as being the only type of soap capable of binding large amounts of electrolytes and of yielding solutions with low surface tension, in order to obtain the requisite "depth action" and penetrability.

In adition to coconut oil, palm kernel oil, babassu oil and ucuhuba fat are also said to be satisfactory in that they withstand the incorporation of the mineral salts and facilitate the absorption of the latter by the skin. It is, of course, precisely this "penetrability," and not, as has erroneously been supposed, alkalinity, that brings about irritation when coconut soaps are used on sensitive skins. A case could apparently be made out for the production of nearly all medicated soaps on a cold-process coconut base, the same arguments being advanced as those put forward for the incorporation of medicaments in pharmaceutical salves of the "absorption base" type.

Shaving soaps of very good quality may be made by using the cold process. The method is essentially similar to that employed for ordinary potash soaps, while the formula usually differes chiefly by virtue of a higher content of caustic potash lye and the addition of double-pressed stearic acid and added glycerine. The mixing in the crutcher or processing kettle should be extremely thorough, but the stirring device should run slowly and be designed with the object of avoiding frothing of the soap mass. On the Continent, the Planet type of stirrer is preferred for this purpose to the more familiar crutcher. In very modern factories, glass-lined, monel, nickel-plated or stainless steel equipment is used for this class of work. By observing due precautions, however, non-rusting iron kettles will serve quite well, but over-heating of the melted stearin must be avoided and the addition of alkali commenced as soon as possible, so that the free stearic acid does not contact the iron sides of the kettle for any length of time.

Cold-made shaving soaps are sometimes cut direct from the matured blocks, for the cheaper class of trade, but otherwise the blocks, after being stored for one or two weeks, should be chipped, dried upon stretched fabric in heated cupboards, then milled and plodded in the usual way. Regular soap base is sometimes added to them in the amalgamator, in order to modify the consistency.

As W. H. Simmons has pointed out, cheaper qualities of transparent soap are made by the cold process, with or without the aid of castor oil and alcohol, and with the assistance of glycerine and sugar. Thus for a small batch, 56 lb. Cochin coconut oil and 56 lb. edible tallow may be taken, melted at 130° F. and carefully strained into a small, steam-jacketed kettle. These materials must be of the highest quality and perfectly clean. Then 23 lb. C. P. glycerine and 56 lb. caustic soda solution (38° Be) are crutched in. The alcohol, which would amount to about 45 lb. is subsequently added. The batch must be most intimately mixed, and the kettle covered and allowed to remain for about 1½ hours. Saponification ensues and, on completion, the soap is filled into narrow frames and allowed to cool rapidly. When quite cold throughout, the blocks are stripped and allowed to stand exposed for a few hours before slabbing. The transparency of such soaps shows a progressive improvement, which may be further enhanced by gently polishing the pressed cakes with a clean rag moistened with alcohol.

Pumice soaps, known also as mechanic's hand soaps, are frequently made merely by incorporating powdered pumice in a cold process soap based on coconut oil and mutton tallow, the pumice being mixed with the melted fat prior to the addition of lye. Filling materials such as silicate, sugar solution, etc. may also be incorporated, while the addition of a proportion of bentonite has been suggested, not only in order to facilitate the uniform dispersion of the pumice throughout the soap but also to retard the sweating out of glycerine that seems to occur in cold, damp weather. For this purpose, the bentonite may be mixed intimately with the pumice powder, prior to the incorporation of the latter in the fat charge.

Cold-made floating soaps formerly consisted of re-melted coconut soap scrap added to hot water and beaten up with a whisking device, in order to include air bubbles, until the original volume was doubled. The mass was then carefully poured into small frames about 6 inches deep. Apart from any other consideration, this method obviously involved difficulty in pressing. The addition of 0.03 to 0.05 per cent powdered aluminium to form minute hydrogen bubbles in a cold-made soap was fully described by F. U. Blumenthal in the July, 1935 issue of *Soap*. Incidentally, British floating soaps usually contain a fair proportion of bran or oatmeal, although their popularity, like that of transparent soaps, has suffered a very considerable decline during recent years.

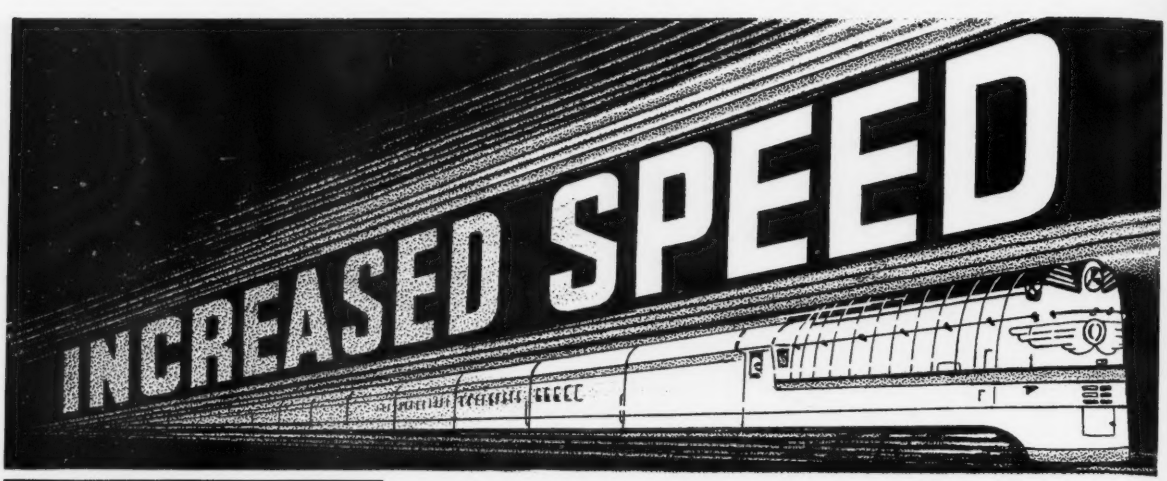
Preventing Extraction Losses

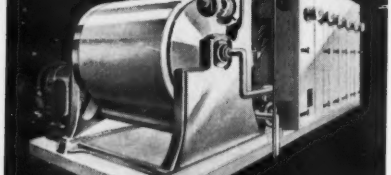
A study of seasonal variations and other fluctuations in gasoline consumption showed serious losses in the extraction of seed oils. The principal remedy lay in redesigning the apparatus, and especially in changing the dephlegmator from a vertical column with inclined baffles to a vertical packed tower. A. Belozerov. *Maslo-boino Zhirovoe Delo* **1939,** No. 3. 8-9; through Chem. Abs.

Washroom Layouts

(*From Page* 29)

back-to-back, the rows being at least four feet apart with benches the length of the aisleway between each row of lockers. In planning the installation of lockers it is well to keep in mind that the locker itself should not stand on the floor, unless it is the type that has feet under it. This latter style permits the janitor to clean underneath it. A far more





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sanitary and better-looking installation results when the lockers stand flush on a small island which is raised about three inches from the floor. This island is curved up from the floor to the point where the locker rests, permitting ease of mopping and cleaning without damage to the finish on the locker. This type of installation forestalls the possibility of the area underneath the lockers becoming littered with paper and scrap. As a safety measure benches should have round ends, and all edges should be beveled.

THE installation of toilets and urinals must be guided in a large measure by local laws and ordinances. It is common practice to install toilets in booths without doors. In many instances the toilet room is set apart from the washroom and where possible this is a good idea for the reason that this type of planning aids in moving washroom traffic.

Generally accepted plumbing codes require that toilets be provided for each sex according to the following table:

Number of Persons	*Number of Toilets*
1 - 15	1
16 - 30	2
31 - 50	3

For each additional 25 employees or users, at least one additional toilet should be installed. Where urinals are provided it is usually permissible to reduce the number of toilets by the number of urinals, except that the number of toilets cannot be reduced to less than two-thirds the total number required.

In planning for the installation of shower equipment, since space is a great factor in the modern washroom, serious thought should be given to the specification of the group shower. This equipment is in use in many industrial plants and offers distinct advantages in space-saving. It is possible for five employees to take a shower at one time in the same amount of space that would normally be required by two shower stalls. The water is supplied by a central feed pipe which is in the form of a column in the center of the shower group.

These five-in-a-group showers have metal partitions, an individual built-in pan to catch the water from each shower, an individual drain for each shower, as well as an individual control for water temperature and pressure. The standard type of duck shower curtain which slides on a rod is used. The five-in-a-group shower requires a circle of floor space slightly under seven feet in diameter.

A 3-in-a-group shower very similar to the above unit is available where the installation requires a shower group against a wall. This type of shower, serving 3 workers at a time, can be figured to accommodate 25 to 30 employees. The larger 5-in-a-group shower will take care of 40 to 50 employees. Thus when planning to equip a washroom with showers, where 250 employees are to use shower equipment, only 5 or 6 of this style shower will be required.

In connection with the shower, each shower should be provided with a pan containing a suitable antiseptic for the prevention of athlete's foot. One such pan should serve three or four showers, but should be located in such a way that employees will be *forced to use it*. If there is an entrance door to the shower room, such a pan would be placed at the entrance, and above it provided a sign advising all workers to use the bath. Many firms supply their employees with one-time paper slippers for walking to and from showers, and report that the use of these practically eliminates cases of athlete's foot when the foot bath is also used. From the foregoing we might imply that the usual stall shower should not receive your consideration, but this is not the case. With new modern materials it is possible to build industrial showers that would do justice to the best homes.

FOR washing purposes, careful study should be given to the various types of equipment available. Industry has gone "hook, line and sinker" for the group washfountain, and with ample justification. When you stop to consider that one 54" diameter washfountain will serve 8 to 10 employees at a time, and a total of 40 to 50 users, the space factor alone is almost enough to swing you in their favor. Each of the plant washrooms illustrated here shows the group washfountain installation which has become almost standard in industrial plants.

This type of fountain supplies water for washing purposes from a central spray head which is fed by hot and cold water pipes from either above or below the fountain. The water passes through a mixing valve before reaching the spray head. It is possible to obtain this fountain with either hand control or foot control. This type of equipment is said to save up to 80 per cent on water, and considering the fact that it costs money to heat water, this fact is important.

Many plants have found that the horizontal trough is satisfactory for washing purposes. These troughs are equipped either with the usual faucet, or can be readily equipped with a spray head similar to those used on shower outlets. Most trough installations do not present as neat an appearance as a group fountain because the trough is fed by exposed hot and cold water pipes. While these pipes may be a bit unsightly, they make a suitable mounting for soap dispensing equipment. Because of the cost involved, as well as the space they waste, very few industrial washrooms have individual washbowls. This type, while perfectly satisfactory for office washroom use, has too many limitations when we consider it as a possibility for plant washroom.

In planning for washing equipment, the fact cannot be overlooked that this is also the time to decide what type of soap should be provided for employees. Since soaps play an important part in industrial hygiene today, a discussion of them is in order, also because this has a direct bearing on the specification of washroom soap dispensing equipment.

GENERALLY speaking there are four basic types of soap for industrial use. These are bar, liquid, abrasive paste, and powdered soaps. There has been a growing trend towards powdered soaps in the past few years. Bar soaps are rarely found in industrial plant washrooms for the reason that they are inadequate for grime removal, and because of the ease with which they are stolen. Many firms have ruled out the use of bar soaps in shower rooms because of the hazard of such a bar if left on the floor. A serious injury might be caused from a fall resulting from an employee slipping on a bar of soap. A minor item, possibly, but one not calculated to get past the eye of any good safety director.

Liquid soaps are acceptable for some industrial uses, particularly where employees are not faced with the job of removing deeply imbedded grime. Since liquid soaps are usually bought in concentrated form, and since it is too often the practice of the buyer to dilute the soap with too much water, through no fault of their manufacturers, liquid soaps often perform very poorly. In concealed gravity feed systems, the problem of maintenance is often a vexing one, since a clogged system can be a great source of annoyance and expense. Plant doctors in particular have in many cases put a stop to the use of abrasive soap pastes and abrasive bar soaps because of the potential damage to the skin from the abrasives, and the likelihood of infection in the minute skin cuts and scratches caused by the abrasives.

As mentioned, there has been a pronounced swing to powdered soaps in the past few years. Many carry fine abrasives, but some of the newer products are now appearing with various non-abrasive scrubbers to aid in the removal of grime and grease.

The best way to decide the type of soap to furnish employees is to obtain samples of the various types, have the medical and safety departments approve them, and then place them at the disposal of the employees and let them make a choice as to type. The type chosen will dictate what dispensing equipment is to be specified. There are a number of very fine liquid and powdered soap dispensers on the market today. These are suitable for mounting on walls or pipes, and some firms furnish adaptors which permit the installation of soap dispensers on group washing equipment. (Note the photograph of the SKF Industrial washroom.) The manufacturers of the group washfountains also make powdered and liquid soap dispensers for use on the fountains.

Once the type of soap is selected, most manufacturers welcome the opportunity to send their particular soap product for trial purposes without charge, which simplifies the choice of a particular brand of product. It cannot be too strongly emphasized that the skin-health of a whole organization of employees can, to an extent, be protected or impaired by the choice of soap. For this reason this is not a subject to be dealt with lightly, but rather one deserving the consideration of the best minds in a plant.

To keep the skin in good condition, it is not enough to wash with a safe, approved product. In addition the skin must be dried thoroughly after each washing and rinsing. It is essential that a high quality towel be supplied. Whether your choice leads you to paper towels or cloth, the location of the towel dispensing cabinets should be given careful study. In all cases these should be located conveniently near the wash trough or fountain and should be available in sufficient number to prevent crowding or confusion during rush hours. There are a number of excellent paper towels now on the market which, when properly used, are highly efficient and economical.

A janitor's sink should be provided in each washroom. This can be installed in a corner, against the wall, and preferably near a built-in supply cabinet which will be used for storing soap, towels, brooms, mops, pails, and other maintenance supplies and equipment.

Drinking water bubblers or fountains are a modern touch in the plant washroom, and should be installed near the lockers. These are available either for wall mounting or pedestal mounting, and in a variety of styles and types.

Most plant washrooms have concrete or tile floors, and certain types of glazed terra cotta are being used as wall materials. Since it costs no more to make a washroom attractive through the use of color, it is suggested that some serviceable color scheme be chosen which is pleasing to the eye. The obvious features of long life with almost no maintenance,—plus the fact that a wide range of colors are available,—are a strong recommendation for the use of tile for both floor and wall materials.

Arrangements for adequate heating, lighting, and ventilation are of importance. Bear in mind that employment in the plant may grow to the point where the washroom which is fully capable of handling today's traffic may, in ten years, be woefully small for the increased employment. It costs but little more to make specifications a bit larger, with an eye to the future than merely to provide minimum needs for present requirements.

For roughing-in purposes the following dimensions may prove helpful. Floor space required by urinals: 24″ by 24″.

Floor space required by toilet, including partition, 32″ along wall, by 42″ deep.

Five-in-a-group showers, floor space required: circle 7′-0″ diameter. Place minimum 18″ from any wall or column.

Three-in-a-group showers, 7′-0″ along wall, extending 54″ into room. Space minimum 36″ from nearest shower, or either side minimum 18″ from wall (only if shower is to be installed near a corner).

Area required per 54″ group washfountain: 7′-6″ by 7′-6″.

Area required by 10 lavatories, back to back (i.e. 5 in a row) 13′-0″ by 6′-0″.

Area required by trough to serve ten employees: 13′-0″ by 6′-0″. Benches are usually 12″ wide, lockers 12″ wide by 15″ deep.

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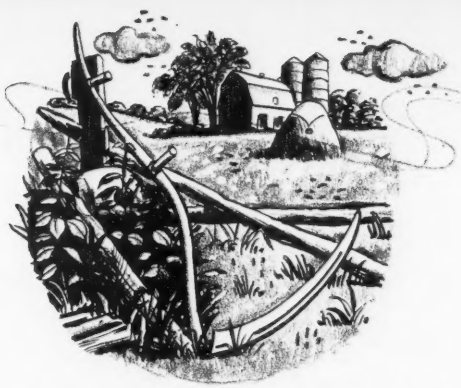

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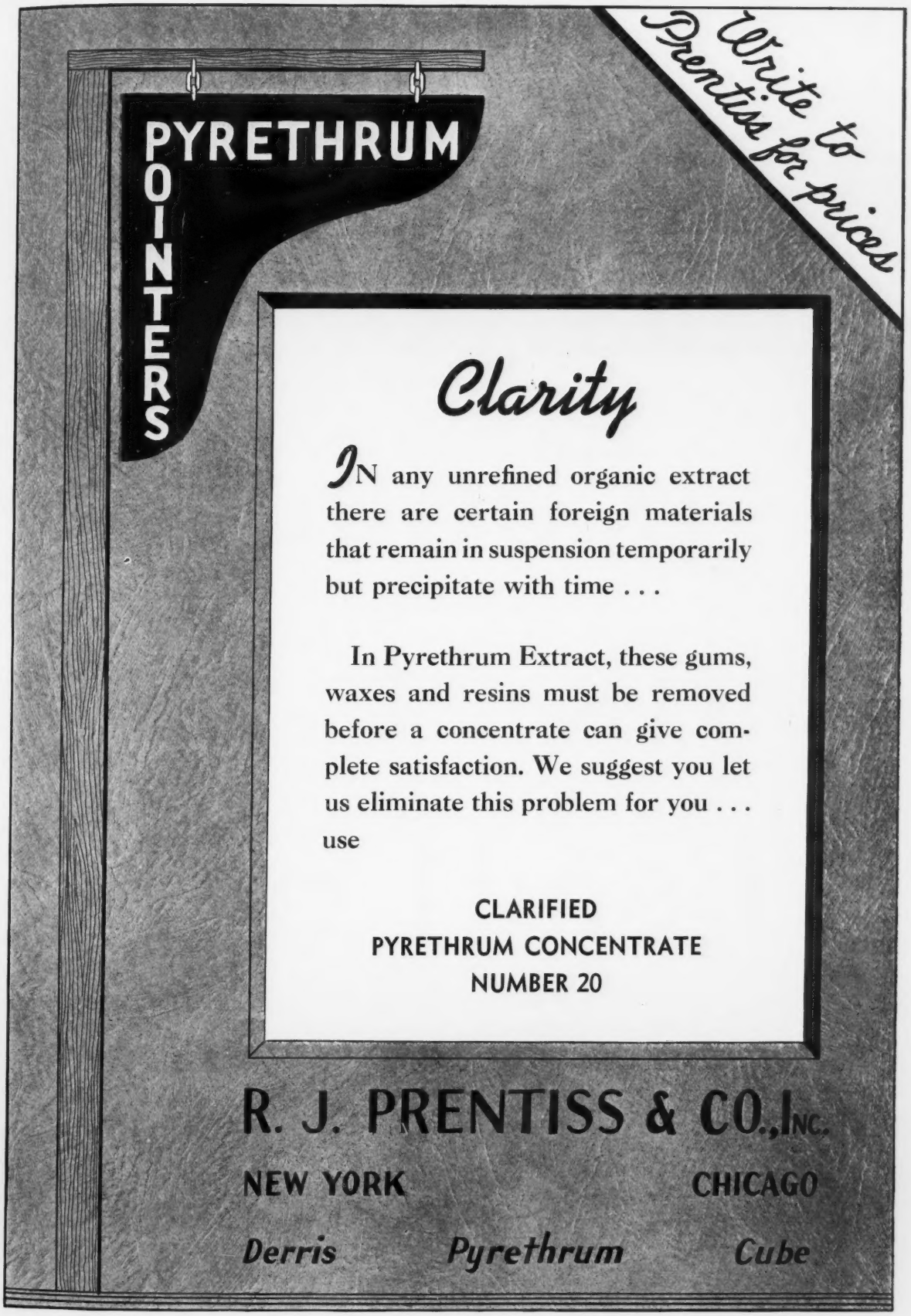
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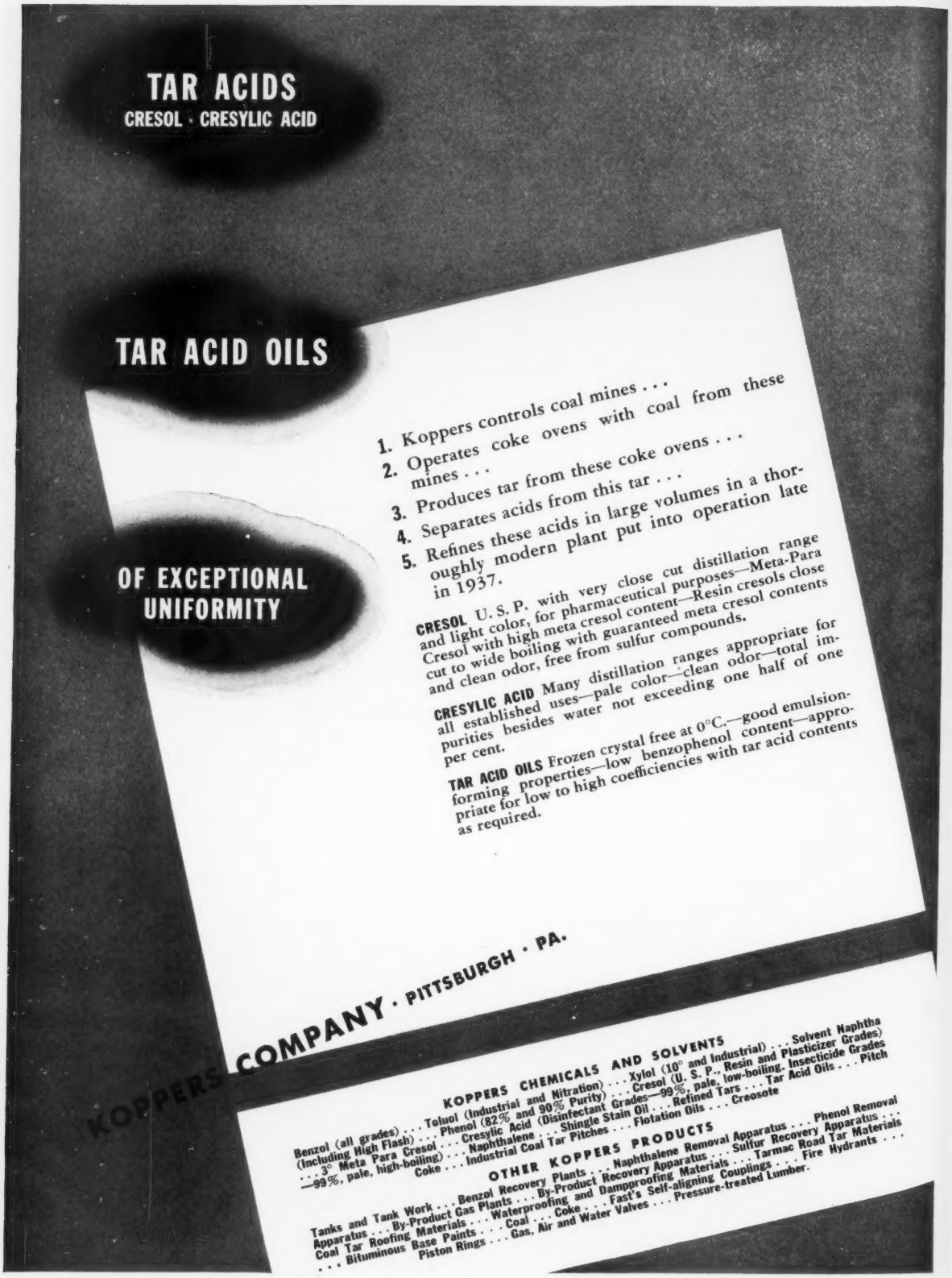
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We are anxious to be of even greater service to you in 1940, when sprays, of necessity, will be reexamined for such vital factors as: (1) choice of toxic ingredients; (2) grade you wish to produce; (3) odor; (4) cost per gallon.

Because D.H.S. Activator is miscible with all ingredients used in liquid insecticides and sprays, and, because of its economy, clear dilution, odor, uniformity, and stabilizing and activating effect, we are confident that it will be used in many sprays in 1940.

In suggesting that you use Yarmor 302 and D.H.S. Activator in your 1940 sprays, we are pleased to place at your disposal the advantages of our knowledge and experience gained in serving the insecticide and disinfectant industry for many years.

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Years of research in Felton Laboratories and thousands of practical tests have resulted in an outstanding line of perfumes (Kerex Series) for use both in pyrethrum base sprays or with the newer synthetic bases or combinations.

These four Kerex Perfumes are most economical to use, and assure you of definite advantages in the successful marketing of your insecticide sprays.

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A floral odor of proven merit.

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A clean, "outdoor" scent.

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FELTON Quality

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CHEMICAL COMPANY, INC.
603 Johnson Ave., Brooklyn, N. Y.

1940 Official Test Insecticide

SUPPLIES of 1940 Official Test Insecticide will not be available until March 1, 1940, or shortly thereafter. For the evaluation of commercial insect sprays by the official N.A.I.D.M. Method, supplies of 1939 O.T.I. may be used up to April 1, 1940. It is contemplated that the 1940 O.T.I. will approximate as closely as possible the 1939 O.T.I. so that there will be no marked variation in results between the two materials.

Orders for 1940 O.T.I., where delivery is desired as soon as the material is available, should be sent to the Association office prior to March 1. Prices for 1940 O.T.I. will be the same as for 1939. Further information may be secured from the Association office.

▼

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110 East 42nd Street — New York

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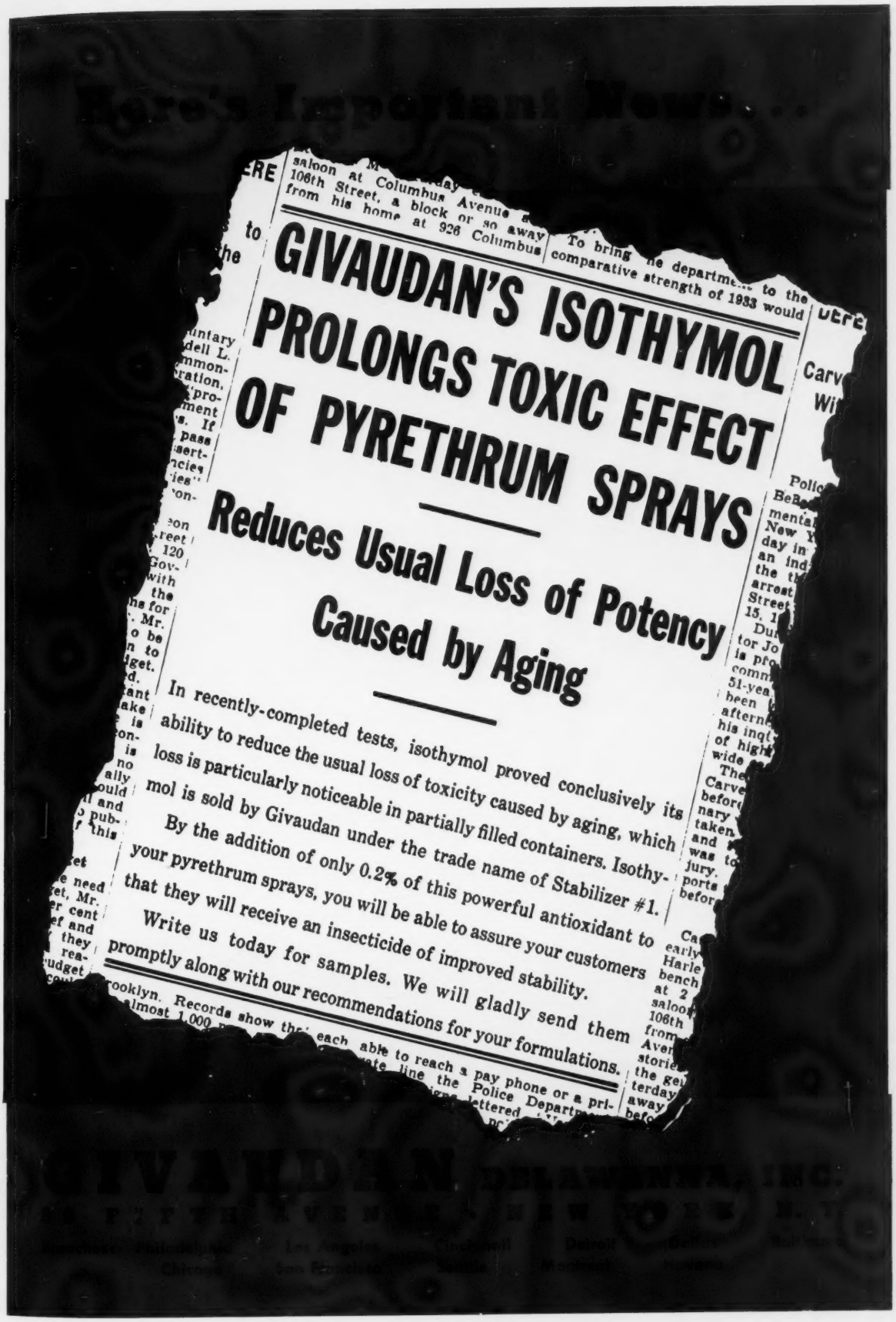
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Reduces Usual Loss of Potency Caused by Aging
In recently-completed tests, isothymol proved conclusively its ability to reduce the usual loss of toxicity caused by aging, which loss is particularly noticeable in partially filled containers. Isothymol is sold by Givaudan under the trade name of Stabilizer #1.
By the addition of only 0.2% of this powerful antioxidant to your pyrethrum sprays, you will be able to assure your customers that they will receive an insecticide of improved stability.
Write us today for samples. We will gladly send them promptly along with our recommendations for your formulations.

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Raw materials are chosen carefully and tested.

Expert supervision over plant production.

Chemical control on the finished product.

Bacteriological control to insure full germicidal strength.

The finished product is the finest money can buy.

Thirty years manufacturing experience behind every gallon.

Products meet Bureau of Standards Specifications.

Careful and prompt handling of all shipments.

Drop shipments to your customer under your brand if desired.

Sales confined solely to wholesale and jobbing outlets.

Coal Tar Disinfectants Coef. 2 to 24

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MANUFACTURING

Over a quarter of a century in the disinfectant manufacturing industry has taught us this—the majority of disinfectant buyers want first, quality; second, a guarantee behind the product that insures the buyer freedom from worry as to *performance* so he can devote his time to *sales* and not to *alibis*.

BAIRD & McGUIRE, INC.

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Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

COMPULSORY indication of the phenol coefficient of a disinfectant on the label will be required if a proposed amendment to the Insecticide Act of 1910 offered by the Food & Drug Administration becomes law. If a disinfectant is offered for any purpose where Staphylococcus Aureus is to be combatted, its phenol coefficient against this organism or the dilution at which it will kill this organism must be given. The proposed amendment also calls for the inclusion of rodenticides under the Insecticide Act, new standards for arsenates, a stricter definition of labelling, and more severe penalties for those who violate the law.

This amendment is aimed to plug up certain holes in the Insecticide Act and to strengthen its enforcement. It is in keeping with the wide trend to tighten all laws controlling the sale of chemical, drug and food products. Just what will be the effect in actual enforcement of the new proposals, we have not yet determined, but we do hear that its chances of passage by Congress are good.

NEW regulations covering the labeling of pyrethrum powder and certain other pyrethrum insecticides have been issued by the Food & Drug Administration, and become effective September 1, 1940. The new requirements include a statement on the label of total pyrethrins in the case of pyrethrum powders, agricultural pyrethrum products, and household garden sprays. The new regulations, we are advised, do not include regular fly sprays, cattle sprays, or other pyrethrum liquid insecticides whose base is composed wholly of a petroleum oil. In the latter case, the F.D.A. considers petroleum as an active ingredient and no change in the present method of labeling will be required.

The F.D.A. announced two months ago that new regulations covering pyrethrum powder labeling were being compiled, and their issuance has been expected by the industry. The effective date, September 1, does not appear to be particularly well chosen. It seems that January 1, coming as it does squarely between the 1940 and 1941 seasons might be considerably less inconvenient to manufacturers. The regulations in full as issued are published elsewhere in this issue. Other details will be published later.

AS A RESULT of the numerous federal, state and local laws and regulations which have piled up on the books during the past two years, we find a growing confusion in the minds of manufacturers, greatest in most instances in the case of smaller firms. The new Food, Drug & Cosmetic Act, the Wheeler-Lea Act, the Insecticide Act of 1910, the Revenue Act of 1932, and a host of federal, state and municipal caustic poison, registration, trademark, sales tax, and other laws,—all combine to confuse and confound the average manufacturer. His head is in a whirl, and he is constantly in fear that he is violating some law or regulation without knowing it.

What to do about it? We don't know. Maybe the fellow who suggested that every firm should fire its sales manager and hire a lawyer in his place, had the right idea.

ATHLETE'S FOOT PROPHYLAXIS

Proposed standards for foot bath solutions and errors in present practice discussed

By Clarence L. Weirich

The C. B. Dolge Company

THE widespread acceptance by the public of the foot bath as a means of preventing the spread of epidermophytosis has brought into the market many proprietary foot bath preparations. Some of these materials are without fungicidal value. For example, preparations of sodium thiosulfate have been accepted, more or less, as useful, though no laboratory worker has ever been able to demonstrate any fungicidal value for sodium thiosulfate in vitro within any time limit that might be considered useful in foot baths. Table 1 shows test of sodium thiosulfate against various fungi. Exposures to a 15 per cent solution of sodium thiosulfate, which is the usually recommended concentration, for as long as one hour showed no killing.

At least one proprietary material avoids the question of fungicidal value by making its claims for prophylaxis on the premise that the material "conditions the feet" and by such "conditioning" of the skin prevents infection. A claim of that character would be very difficult to substantiate, indeed, if it could be done at all. A careful analysis of the product shows nothing but familiar materials the physiological action of which are well known. It certainly would appear reasonable to expect that a material for use in foot baths should be fungicidal.

The National Association of Insecticide and Disinfectant Manufacturers on December 5th, 1939, adopted the following, "Tentative Standard for Foot Bath and Floor Fungicides."

Microphotograph of Trichophyton Rosaceum.

(1) Materials for use in foot baths in public places shall be capable of killing *Trichophyton rosaceum* within one minute at 20° C.
(2) Materials for use as floor fungicides shall be capable of killing *Trichophyton rosaceum* within 10 minutes at 20° C.
(3) The culture shall resist for one minute, a dilution of phenol of 1:80, but not one of 1:60.

This appears to be the first step towards fixing a sensible standard for such foot baths.

Almost all types of industrial disinfectants have been recommended either for use in foot baths or as floor fungicides. The value of a material as a disinfectant has been widely and erroneously accepted as equivalent fungicidal value by the buyers of disinfectants. Such a translation of value may lead to reliance on materials which may be ineffective as fungicides.

Table 2 shows a test against fungus of three disinfectants, all of equal disinfecting value. Two out of three types tested are useless as fungicides if used at the dilutions indicated by their disinfectant value. It seems reasonable to expect that materials intended for fungicidal purposes should be tested against fungi and that the tested value against bacteria should not be accepted as a criterion of their fungicidal value.

Foot bath solutions, of course, should not be irritating to the skin nor should they be made of materials likely to be dangerous in use. Proprietary materials containing bichloride of mercury have been sold for foot bath use to a limited extent without any explanation or statement that the material contains bichloride of mercury. There are so many other useful materials available that the use of dangerous bichloride of mercury should not be risked under ordinary conditions in foot baths.

Irritating chemicals have been used in foot baths. However, it is well known to dermatologists that strong fungicides having irritating qualities may exacerbate mycoses rather than help them. For this reason any materials likely to be irritating to the skin should be ruled out. Simple patch tests are often sufficient for this purpose. For example, a solution of sodium parabromphenylphenate has been sold as a floor fungicide and suggested as a foot bath material. This material is quite irritating to the skin as a simple patch test readily demonstrated. The results of such test are shown in the illustration. Fungicidal power and lack of irritating

TABLE 1
FUNGICIDAL EFFECT OF SODIUM THIOSULFATE
1 minute at 20°C.

ORGANISM	Per Cent Sodium Thiosulfate					Phenol Resistance	
	5	10	15	20	25	0	x
Achorion schoenleinii	x	x	x	x	x	70	80
Trichophyton rosaceum	x	x	x	x	x	60	70
Epidermophyton cruris	x	x	x	x	x	50	60
Trichophyton interdigitale	x	x	x	x	x	70	80

x means organism survived.
0 means organism was killed.

TABLE 2
FUNGICIDAL VALUE OF COMMON INDUSTRIAL DISINFECTANTS
Tested against Trichophyton rosaceum, 10 minute exposure

Material Tested	Dilution								
	20	40	80	90	100	150	200	250	300
Coal tar disinfectant coeff 6	0	0	x	x	x	x	x	x	x
Cresylic compound coeff 6	0	0	0	0	0	0	0	x	x
Pine oil disinfectant coeff 6	x	x	x	x	x	x	x	x	x
Phenol	0	0	0	x	x				

Note: The 20 dilution of the coal tar disinfectant is a thick cream.
x = growth.
0 = no growth.

properties appear to be minimum requirements for any foot bath solution.

It should be pointed out that there are other considerations, too. A foot bath should either not be greatly affected by the amount of organic matter carried into the foot bath by feet or if it is so affected, it should be used at a safety factor carefully established by observation and use. More organic matter is carried into such foot baths than one would suppose. The contaminating material consists chiefly of soap, and silk, woolen and cotton shreds from hose. Phenolic materials are little affected by this type of organic matter. Hypochlorites are grossly affected.

Stability against oxidation by air is even more important. Many materials exhibiting high fungicidal activity when stored in bottles and tested in the laboratory, lose part of this activity rapidly when exposed in shallow foot tubs with relative large surface areas. Higher phenols are peculiarly subject to this type of deterioration particularly in alkaline solutions. Where foot baths are little used such as in small country clubs and in small private schools, the foot bath may lie about virtually unused for ten days or more without renewal. In much less than this time, certain of the higher phenols will be seriously affected by air oxidation. On the other hand, the hypochlorites are relatively stable on storage though quickly affected by persons passing through them.

The usefulness of any standard depends upon the ease with which a material may be tested for compliance. It is to be regretted that there is, at the present time, no official method for testing of fungicides of the same type as the Food & Drug Administration method for testing disinfectants. However, much work has been done by researchers engaged in the study of fungicides. Most experienced workers are fairly well agreed as to the details of such methods, yet such testing is not a common enough laboratory procedure that all commercial laboratories have had adequate experience in that fleld. It is recommended that those wishing to have such tests made secure the names

A case of "Athletes' Foot."

and addresses of laboratories experienced in this class of work from the National Association of Insecticide and Disinfectant Manufacturers, 110 East 42nd Street, New York, N. Y.

From the standpoint of the user of such foot baths, other considerations than those outlined above may dictate a choice of material. For example, the odor of cresylic disinfectants is objectionable to many persons. While such materials might be suitable for factory or school use, they might not be acceptable for country clubs, for example. The odor of strong hypochlorite solution has been

(*Turn to Page* 103)

Patch test with sodium parabromphenylphenate.

DISINFECTANT SPECIFICATIONS

Alkyl-phenolic disinfectants from petroleum and the Commercial Standards

By Dr. Emil Klarmann*

Lehn & Fink Products Corp.

IN OPENING up a new source of raw materials for the production of antibacterial agents, the petroleum industry is presenting to the disinfectant industry an opportunity as well as a challenge to take advantage of an outstanding technological development. In spite of the comparative novelty of this matter, already there are a number of experimental indications, pointing to the possibility of improving existing formulas of germicidal products and of creating new ones of greater bacteriotropic and of lesser organotropic action. If one remembers that the worker in the field of germicides is ever striving for the ideal product, viz., a non-specific antibacterial agent, possessed of a maximum destructive power against germs, and of a minimum toxic or corrosive action upon human and animal tissue, one may justly assume that, at least, as far as the field of general disinfection is concerned, the introduction of disinfectants containing as active principle the new alkyl-phenolic acids from petroleum sources, represents a decided advance on the road towards the ideal. There is hardly any doubt that future developments in this field will confirm this opinion.

It is fitting, therefore, that due consideration should be given at this time to a discussion of a revision of the commercial standards CS70-38 and CS71-38 so as to allow for an incorporation of the new materials under discussion. It will be remembered that these standards, as conceived by our Association are only a little over two years old, and that only a year and a half have pased since their promulgation by the U. S. Department of Commerce through the National Bureau of Standards. At that time the existence of acids from petroleum sources was known, but the materials were not deemed to be of sufficient commercial or technological importance to call for consideration in the standard specifications. This is why materials of coal tar origin only were referred to in these specifications. The situation is entirely different today; the petroleum industry appears to be in a position to supply several types of acids heretofore obtainable from coal tar only, and some which the coal tar industry has not supplied to date.

Following the dissolution of the Special Committee on Standard Specifications, your Chairman of the Scientific Committee on Disinfectants, acting upon instructions from your President, carried on considerable correspondence and held several verbal consultations with technical men of the Shell Development Company and of the Standard Oil Company of California. Samples of materials produced by these companies were examined chemically and bacteriologically; this was done to ascertain the scope of available material and thus to delineate the extension of the standard specifications. It is felt that it is neither necessary nor desirable to refer here to the many details which preceded the present phase of submitting the proposed changes of specifications for the consideration of the membership. Instead, it is deemed preferable to proceed directly with a discussion of the proposed revisions.

The revisions circularized with the Association's bulletin No. 107 of November 6, 1939, originate with a conversation between Messrs. Thornhill and Steck of Shell, and your Chairman of the Scientific Committee on Disinfectants, on October 5, 1939. They do not, however, follow the line of this conversation in every detail, but they contain additional changes introduced by their sponsor, the Shell Oil Company, as a result of subsequent discussions with some members of the disinfectant industry. Since it is of considerable importance to the disinfectant industry to make the standard specifications as perfect as possible from the point of view of both the producer and the consumer, I shall take the liberty of mentioning some points in this revision which, in my opinion, call for correction. Needless to say, the membership is urged to comment on any points which appear to call for changes.

May I begin with the Commercial Standard CS70 (National Bureau of Standards) covering disinfectants of the emulsifying type. While the present standard bears the heading "Coal Tar Disinfectant (Emulsifying Type)" the revision in Bulletin 107 bears the heading "Alkyl-phenolic Disinfectant (Emulsifying Type)." Some remarks are in order on the meaning of the term "alkyl-phenolic." This term was suggested by your

* Address of the Chairman of the Disinfectant Scientific Committee before 25th Annual Meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., Washington, D. C., Dec. 1939.

Chairman originally in connection with the revision of the Standard Specification CS71 because of the occurrence in certain commercially available fractions of petroleum acids of alkyl phenol derivatives which could not very well be classified under the heading of "cresylic acid." This point will be discussed in greater detail in connection with the revision of the Standard Specification CS71.

As a result of the discussion with the members of the Committee, I would suggest now to use the simple heading "Phenolic Disinfectant (Emulsifying Type)." I would delete the phrase "alkyl-phenolic" wherever it occurs in the text. In this connection, I am calling your attention to another revision of the standard specifications CS70, viz., those dated December 1, 1939; these are the ones originally discussed with the Shell representatives.

As to the specifications CS71, because of the commercial availability of acid fractions from petroleum sources containing high molecular weight alkyl phenols, a complication arose insofar as disinfectants made with such fractions could not very well be described as "cresylic disinfectants." As far as I am aware, the purpose of the original specification CS71 was to cover products essentially similar to the cresol compound of the U. S. Pharmacopoeia in regard to composition, method of preparation and uses. The tar acids used for this purpose consist substantially of the three cresol isomers, with varying proportions of phenol and xylenols. Now it is realized that the term cresylic acid is being used loosely occasionally (particularly as regards the initial materials for synthetic resins), and that it may cover a distillation range outside that of, e.g., the U.S.P. cresol, even though most technical textbooks, dictionaries and compendiums state the terms "cresol" and "cresylic acid" to be substantially synonymous; nevertheless, when speaking of a "cresylic" *disinfectant* (rather than of cresylic *acid*), a more accurately delineated meaning of the term "cresylic" is understood by the user of this phrase, and more particularly along the lines indicated.

Thus to the producer and user of *disinfectants*, the term "cresylic" may carry a more narrowly circumscribed connotation than to the producer or user of "cresylic" *acid*. Many members of our industry produce or supply cresol compound U.S.P. or similar material, and these, I believe would like to see the term "cresylic disinfectant" reserved for this type of product.

Another point worth stressing is that of formulation. The cresol compound of the U. S. Pharmacopoeia is prepared, and displays a satisfactory stability without the aid of organic solvents. Many other preparations which follow the general type of the U.S.P. product, even though not answering the U.S.P. requirements, are prepared in the same fashion. On the other hand, it appears that the formulation of disinfectants with the high boiling acids from petroleum calls for the use of organic solvents such as isopropyl alcohol. Of course, no criticism of the use of isopropyl alcohol is implied and no question raised as to its safety for such use. Mention is made merely of the necessity to use an ingredient not present in the "type" formula viz., that of the Cresol Compound U.S.P. which would make for another distinction between the two varieties of disinfectants under consideration.

It was, therefore, your Chairman's original suggestion to change the heading of the specification CS71 to "Phenolic Disinfectant"—(Soluble Type), and to divide the products falling under this general classification in two groups, viz., Group A of cresylic disinfectants with phenol coefficients of from 2 to 5, and Group B of disinfectants with phenol coefficients of over 5. Thus Group A would cover all products heretofore covered by CS71, while Group B would cover the soluble disinfectants of greater germicidal potency, made possible with the aid of the high-boiling alkyl-phenolic fractions of petroleum acids. These thoughts are expressed in the mimeographed copies of the proposed revision dated Dec. 1, 1939, and they are being submitted for your consideration.* Please remember that the sole purpose of this suggested division in two groups is the retention of identity of the group of cresylic disinfectants, perhaps *not so much on purely technical grounds, as on those of marketing expediency*.

Finally reference is made to a suggestion by one of our members to include alkyl phenols of synthetic origin in the standard specifications for both the emulsifying and the soluble types of disinfectants. He argues that a number of alkyl phenols such as tertiary - butyl and tertiary - amyl phenols and also thymol, carvacrol and others, are being produced on a technical scale and that, therefore, the standard specifications should cover disinfectants prepared with such synthetic material. I am of the opinion that this suggestion deserves consideration, and I am referring it to you for action. If you care to act upon it favorably, the respective phraseology in the drafts of specifications under discussion should be modified so as to include "acids (alkyl phenols) from synthetic sources," in addition to the other two sources, now proposed for inclusion.

I hope that all members engaged in the production of disinfectants are aware of the great importance to the disinfectant industry of the commercial standards, and that the committee entrusted with the task of drawing up the final wording will have the benefit of the industry's best thoughts on this subject.

Recommended Revision of Commercial Standard Specification CS70-38

Phenolic Disinfectant (Emulsifying Type)

Commercial Standard CS70-XX

Purpose

1. The purpose of this commercial standard is to provide a minimum specification for quality, as a basis for understanding and voluntary guaranties between producers, distributors, and users in the purchase of the commodities covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that

*The Recommended Revision of Commercial Standard Specifications given below embodies additional changes suggested at a meeting of the Special Committee on Disinfectant Standard Specifications.

which may be expected of emulsifying type disinfectant manufactured in conformity with a nationally recognized specification.

Scope

2. This standard covers materials, physical and chemical properties, and certification of quality of phenolic disinfectant (emulsifying type).

General Requirements

3. It shall be made from phenolic acids (alkyl phenols), or combinations of such acids with neutral aromatic hydrocarbon oils, and an emulsifying agent.

4. It shall contain not less than 65 per cent by weight of phenolic acids (alkyl phenols) and neutral aromatic hydrocarbon oils.

5. It shall contain not over 10 per cent of water.

6. It shall not contain kerosene or other paraffinic hydrocarbons.

7. The phenol coefficient shall be determined by the Food and Drug Administration Method using B. typhosus as test organism and shall be clearly stated on the label attached to each shipping container. (1).

8. It shall make turbid or milky emulsions with water of zero hardness at 20°C. (68°F.) when diluted in the ratio of 5 parts disinfectant to 95 parts of water, for disinfectants having phenol coefficients of 10 or under; and in the ratio of 2 parts of disinfectant to 98 parts of water for disinfectants having phenol coefficients over 10. These emulsions shall show not more than a trace of oily float or sediment when stored for 5 hours at room temperature.

9. It shall remain limpid, showing no sign of naphthalene crystallization down to 0°C. in 12 hours.

10. It shall contain less than 5 per cent benzophenol.

11. The disinfectant after standing indefinitely, shall show no separation, no loss of germicidal value, nor any form of decomposition (such as soap separating from the oil) under normal and reasonable conditions of storage.

Certification and Labeling

12. The following form of statement on labels (2), invoices, etc., is recommended:

"The.....Company certifies this phenolic disinfectant (emulsifying type) to conform to all requirements of the standard adopted by the National Association of Insecticide and Disinfectant Manufacturers, Inc., and recorded as Commercial Standard CS70-XX by the National Bureau of Standards of the U. S. Department of Commerce.
Phenol coefficient.....".

(1) This type of disinfectant is readily available with phenol coefficients ranging from 2 to 30, and higher. Contract buyers should specify the phenol coefficient desired.

(2) When used on labels this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

Recommended Revision of Commercial Standard Specification CS71-38

Phenolic Disinfectant (Soluble Type)

Commercial Standard CS71-XX

Purpose

1. The purpose of this commercial standard is to provide a minimum specification for quality, as a basis for understanding and voluntary guaranties between producers, distributors, and users in the purchase of the commodity covered by these specifications, and as a foundation for confidence on the part of purchasers that the efficacy of the material is that which may be expected of phenolic disinfectants manufactured in conformity with a nationally recognized specification.

Scope

2. This standard covers materials, physical and chemical properties, and certification of quality of phenolic disinfectants. (Soluble type.)

GROUP A

Cresylic Disinfectant (Phenol Coefficient 2 to 5)

General Requirements

3. The product shall be made from cresylic acid and a soap derived from rosin acid and/or fat and/or oil of vegetable origin.

4. It shall contain not less than 50 per cent of cresylic acid as determined by the method described in U. S. Pharmacopoeia XI for the assay of cresol in the saponated solution of cresol.

5. It shall contain not more than 25 per cent inert ingredients (water plus glycerine, if any).

6. The phenol coefficient shall be determined by the Food and Drug Administration Method using B. typhosus as the test-organism and shall be clearly stated on the label attached to each shipping container. (1).

7. It shall contain less than 5 per cent of benzophenol.

8. It shall make clear solutions with water of zero hardness at 20°C. (68°F.) within the concentration range of from 1 to 4 per cent. Such solutions, when kept in closed containers, shall remain either practically clear or become only slightly opalescent when allowed to stand for 24 hours at 20°C. (68°F.) away from direct light.

9. It shall show no soap separation when cooled down to 0°C. and held at this temperature for 3 hours.

GROUP B

Phenolic Disinfectant (Soluble Type) (Phenol Coefficients over 5)

General Requirements

10. The product shall be made from phenolic acids (alkyl phenols) and a soap derived from rosin acid and/or fat and/or oil of vegetable origin.

11. It shall contain not less than 50 per cent of phenolic acids (alkyl phenols), as determined by the method described in U. S. Pharmacopoeia XI for the assay of cresol in the saponated solution of cresol.

12. It shall contain not more than 25 per cent inert ingredients (water plus glycerine, and organic solvents, if any.)

13. The phenol coefficient shall be determined by the Food and Drug Administration Method using B. typhosus as the test-organism and shall be clearly stated on the label attached to each shipping container (2).

14. It shall contain less than 5 per cent of benzophenol.

15. It shall make clear solutions with water of zero hardness at 20°C. (68°F.) at concentrations of 2 per cent or less. Such solutions, when kept in closed containers, shall remain either practically clear or become only slightly opalescent when allowed to stand for 24 hours at 20°C. (68°F.) away from direct light.

16. It shall show no soap separation when cooled down to 0°C. and held at this temperature for 3 hours.

Certification and Labeling for Group A

17. The following form of statement on labels (3) invoices, etc., is recommended:

"The.....Company certifies this cresylic disinfectant to conform to all requirements of the standard adopted by the National Association of Insecticide and Disinfectant Manufacturers, Inc., and recorded as Commercial Standard CS71-XX, Group A, by the National Bureau of Standards of the U. S. Department of Commerce."

Certification of Labeling for Group B

18. The following form of statement on labels (3), invoices, etc., is recommended:

"The.....Company certifies this phenolic disinfectant soluble type to conform to all requirements of the standard adopted by the National Association of Insecticide and Disinfectant Manufacturers, Inc., and recorded as Commercial Standard CS71-XX, Group B, by the National Bureau of Standards of the U. S. Department of Commerce."

(1) This type of disinfectant is readily available with phenol coefficients of over 5 and up to 12 or higher. Contract buyers should specify the phenol coefficient desired.

(2) This type of disinfectant is readily available with phenol coefficients of over 5 and up to 12 or higher. Contract buyers should specify the phenol coefficient desired.

(3) When used on labels this statement is in addition to, and not in lieu of, the ingredient statement required by the Insecticide Act of 1910.

INSECTICIDE LABELING

California labeling and advertising requirements for economic poisons discussed further

By Dr. Alvin J. Cox*

CALIFORNIA realizes as never before the importance of its economic poisons law. The work of the Bureau of Chemistry, California Department of Agriculture, is a service under the Agricultural Code, primarily to benefit the user in prevention of fraud and misrepresentation in sale of products. Also, it is helpful to manufacturers in preventing unscrupulous competition. Seldom does a manufacturer complain of unscrupulous competition in our state, but I hear outpourings with regard to unfair practices that have to be met in other states having less rigid laws. In California things have to be done right. The difficult things are done now. The "impossible" ones take a little longer. The law is applied to everyone in the same manner and any manufacturer is welcome to apply for registration of economic poisons in California when he is willing to do right, and the square thing.

Economic poisons are required by law to be properly labeled. The preparation of a proper economic poisons label requires wide and expert knowledge. Just anyone cannot even make a satisfactory garment. In like manner, unassisted, most people cannot prepare a lawful label even for the simplest economic poisons product, much less for a complicated material to be used in an involved pest control program.

California's, like most statutes, are fairly general, leaving a degree of latitude through interpretation and regulations. It is the aim of the Bureau not only to protect the user but the manufacturers, and to make its interpretations, not only in a conservative manner, but along broad lines and upon a background of knowledge that relates to as many products as ultimately may likely be involved. Furthermore, insofar as California law will permit, the Bureau wishes to keep in harmony with the federal law and the statutes of other states and countries.

The average manufacturer has little conception of the complications that may arise in labeling. The Bureau frequently warns with regard to shortcomings of labels, and, for less serious irregularities allows time for corrections. In some cases before the corrections have been made, the federal government may have libeled a shipment and prosecuted the manufacturer in some other part of the country. The Bureau protects manufacturers by not allowing even an indirect economic poisons claim on the label or in connection with the sale of a product that is not registered. If it is registered as an economic poison, *every claim* or representation must be *capable of substantiation.*

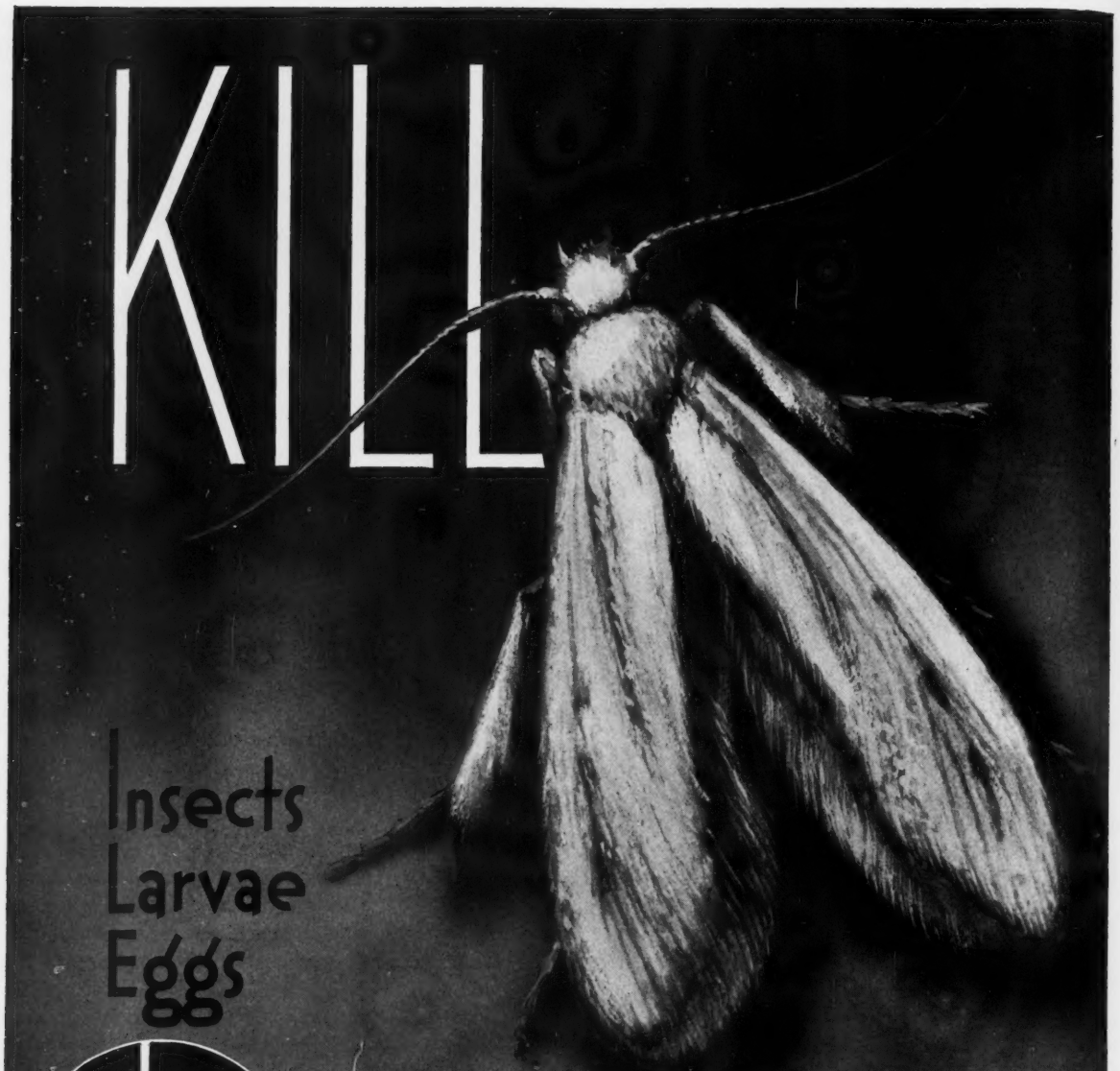
The Bureau sent fourteen pages of comments to one registrant with regard to his labels. There wasn't anything flagrantly wrong, but only numerous irregularities that were bad for all concerned. If irregularities, or even minor errors, are not corrected they may be perpetuated by being copied by others. It requires time, effort, and much patience to secure faultless labels.

Closely connected with labeling is advertising. One of the jobs of the Bureau is to combat the excessive, dishonest or ambiguous claims of some advertising, and assist with honest advertising. The Bureau is constantly looking for misleading advertisements, but tries to find them before they are printed. Advertising should be dignified and not misrepresentative. California registrants are trying to sell their products on representations of value for the purpose intended and not on account of any negative characteristics, and to get growers and other users to believe what they tell them. If anyone is allowed to make extravagant claims, soon there is a point where no one, neither manufacturer nor user, knows what to do.

To be a good law enforcement officer, one must be a good teacher. It is easy to be lax in law enforcement, and it takes courage to be thoroughgoing, for other than the satisfaction of ideal accomplishment, an official has little to gain if he is right, and much to lose if he is wrong. However, authority must always be tempered with a consciousness of responsibility. We have tried to keep the Bureau elastic and responsive to the interests of the industry and still achieve the purposes of the law.

There are two types of law enforcement. The one with a big threat, a blustering "throw 'em in the jug," or "holier than thou attitude"; and the other by education. To an extent within limits, with conscientious enforcement, as the one type decreases and the other increases, the better the administration. The Bureau does not want bureaucracy, but humility. It wants to put into practice the wishes of the majority. It wants everyone to desire to do the right thing rather than be compelled. It is

* Address before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., Washington, D. C., Dec., 1939.



Lethane 384 Special

SPRAYS using the proper concentration of Lethane 384 Special will kill not only adult insects, but their larvae and eggs as well. A 5% concentration with no other toxic agent will produce an "AA" grade spray and will be very effective in controlling moths, roaches, and bedbugs as well as flies.

RÖHM & HAAS COMPANY, INC.

222 West Washington Square, Philadelphia, Pa.

CHICAGO • KANSAS CITY, MO. • *Canadian Agent*—P. N. SODEN & CO., LTD., MONTREAL, P. Q., CANADA

to the advantage of the registrant to comply willingly with California requirements. When an official has the courage to do his job right, a lot of people think they are being regimented. If the willingness to be controlled, that is, to do the job right, continues to grow as it has, it will be easier and easier for all of us. *LET US GET RIGHT, KEEP RIGHT, and DO RIGHT!* Let us love ourselves less and the right more.

When a registrant prints his name on a label or an advertisement of an economic poison, *that* is equivalent to a letter to the user of the material, for under the law a registrant is held responsible for anything he prints. The advertisement constitutes a bargain as to what may be expected by a purchaser. The day is not past when people shall live up to their bargains. Many registrants who sell economic poisons should be complimented in their attempt to live up to the law.

A section of the Agriculture Code of California reads as follows: "1072. The director may, after hearing, cancel the registration of, or refuse to register, any economic poison: . . . (b) Concerning which false or misleading statements are made or implied by the registrant or his agent, either verbally or in writing or in the form of advertising literature."

National advertising must conform to this requirement of the Agricultural Code of California, if a registrant wishes to sell in California. The Bureau has jurisdiction over radio advertising. In California one can say anything in advertising that the law would permit him to say on a label.

The last paragraph of Section 1072 of the Agricultural Code of California states: "The director may cancel the license of, or refuse to license any manufacturer, importer, or dealer in economic poisons who repeatedly violates any of the provisions of this article or the rules and regulations of the director."

Extravagant or meaningless words and phrases to catch the eye are not acceptable. A material should be sold upon its value for the purpose intended, and any comparison, implying poor quality of similar products, is poor advertising. There is no need of a tolerance for dramatization. Even customers are commenting on the improvement in labels. On a poor product, a user not only wastes his money and shuns even good products, but sometimes in addition the useless material does injury.

Some example of objectionable statements in advertisements and on labels are as follows:

"XYZ ant pads remain until they are eaten up. They do not melt in the sun and water does not dissolve them." How can the ants eat them if they do not dissolve?

"PROTECT YOUR ROSES—FOR INSECTS AND FUNGI ON ROSES:—XYZ is an amazing spray that gives complete plant protection." These phrases imply that the product will control all insects and plant diseases, which is extravagant. "Economical. Positively controls blackspot and mildew; kills insect pests." This statement is too broad. Sweeping statements must be proved.

"XYZ—the all-purpose spray." There is no such thing. Even some of our best insecticides are selective, and are almost specific against certain pests, but of little general value.

"A substitute for lead arsenate." It is doubted that any economic poison is ever a substitute for something else. Each should be sold on its merits.

"KILLS QUICKER. Spray it —They die." These are vague words.

"They can't resist it. No one can escape." These phrases imply extermination and the end of the economic poison business.

"New! Improved! Sure!" The applicant for registration must delete these words or show in what respect they apply.

"Colorless, odorless, stainless, non-explosive" — all inclusive statements are frequently questioned.

"Lasts longer! 40 per cent stronger!" Lasts longer and 40 per cent stronger than what? The owner of this label might be a candidate for a conference with the Federal Trade Commission.

"Safe and powerful. Non-poisonous, but means sure death to the pests."

There is no such thing known as economic poisons being potent and at the same time non-toxic. A registrant not only cannot say "non-poisonous" but he must warn of any danger. It is incumbent upon the manufacturer to prove anything not reconcilable with present ideas.

"Does not deteriorate in the can." It would be useless if it did, and this statement may be intended to imply that competitors materials do.

Phrases that are obviously too broad, designed to deceive, or otherwise unacceptable, are illustrated as follows:

"The only poultry vermicide that contains Blank." (Where Blank is a registered trademark of the same company).

"To kill bugs effectively, use Blank Insecticide."

"Cut spray costs. Use Blank Products."

"Use our oils and save money. Lower dosages."

"Blank Sprays contain patented ingredients that render them superior."

"Blank Sprays are designed to do a better, more economical job for you."

"Growers in citrus districts everywhere have found these sprays far superior in uniformity, effectiveness and lower cost per tree."

"Blank Copper Carbonate kills smut." Copper carbonate is not effective for the control of all kinds of smut.

"Blank Raticide won't kill livestock, pets, or poultry, but it gets rats everytime."

"Blank Disinfectant in gallon size costs *less* than ordinary products."

"It is just good sense to buy Blank, the reliable, *full strength*, disinfectant, when you get it for *less*."

PROTEX DERRIS EXTRACTS

STAY IN SOLUTION...

and give your sprays the ADDED sales feature of

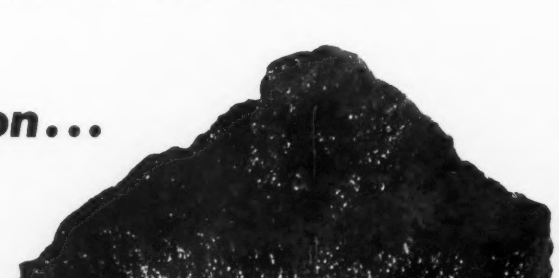
Permanent Leg Paralysis!

(MORIBUND KILL...where the insects *never* recover)

Here's the Reason...

Pictured here is an actual mass of insoluble fractions of Derris Resins REMOVED BY OUR PROTEX PROCESS in manufacturing our Derris Extracts that are offered for use in making Kerosene-base insecticides.

When sprays are made from Derris Extracts produced by ordinary methods, these are the objectionable particles that "kick out"... precipitate... cloud the spray upon standing *and reduce the kill!*



The Trouble-Maker in Derris or Cube Extracts

The material pictured here is the "trouble-maker"... causes the "headaches" in sprays containing Derris Extracts that are made by the ordinary methods to be used in Kerosene bases.

You can NOW make sprays that have all the good qualities of Derris with *none of the bad*...and save money at the same time!

Your customers are demanding sprays for killing Bedbugs and other hard-to-control insects and at the same time, they want sprays that are non-poisonous to humans.

You have the answer with PROTEX DERRIS EXTRACTS... at a reasonable price!

PROTEX Derris Extract *for making Household Sprays*	PROTEX Derris Extract *for making Crawling Insect Sprays*	PROTEX Derris Extract *for making Livestock Sprays*	PROTEX Derris Extract *for making Mill Moth Sprays*

Price: $1.50 per gallon in Drums — Freight allowed. Write for sample.

WHITMIRE RESEARCH CORPORATION

339 SOUTH VANDEVENTER · SAINT LOUIS · MISSOURI

WRC

PROTEX and DIHYDROLIN (Hydrogenated Rotenone Compound) Concentrates are stocked in the East for prompt distribution in Eastern States and Foreign Countries by Dodge and Olcott Co., New York City

THE day of mystery is over. In lieu of such useless statements, the label could advantageously and helpfully enumerate the dilution, if any, the method of application, the optimum time of application, the dosage, and other useful information.

One advertisement stated: "Kills the double way by stomach and by contact . . . A wonderful product for controlling . . . Beetles, Scales . . . Tomato Worm . . ."

An insect can be killed but once. The manufacturer was required to delete "double way." The list of pests to be controlled is too broad and general. The product is not acceptable for all "beetles" and all "scales," and only an acceptable list of these insects can be included. There are several destructive species in California commonly referred to as "tomato worms," and a more definite name must be employed.

A useful label includes the names of the pests to be controlled by the material. Such a list should be specific. It is of little help to a user to read on a label, "For control of certain leaf-chewing insects," or "For control of certain internal parasites in poultry." The manufacturer was instructed to discontinue this advertisement until brought in line with California law.

Squill frequently has been labeled "Not a Poison,"—"Non-Poisonous,"—"No danger since it is only toxic to lower forms of animal life." Squill is an emetic. Any product that will poison pests may be insidiously harmful to man, and it is not acceptable to make such claims for an economic poison in California. "The United States Government recommend this as the best rat control" whereas that agency only suggests squill and not this product. The law is ample to prevent the sale of products that might be too hazardous, and it is unnecessary for advertising to attempt to educate the people.

THE term under which an economic poison is sold must be registered with the Bureau. This term should appear on the label in exactly the same form as it has been registered, and in a typographical unit such that it will always be read in a uniform manner. The value to a registrant of having one definite and easily-remembered name for each of his products is so great that compliance with this requirement of law should be inevitable. And yet some labels are submitted bearing such a geometrical confusion of brand names, common names, trade-marks, slogans, differentiating numerals or letters, and descriptive matter, that it is impossible to decipher the name under which the material is to be sold. It has been the policy of the Bureau to register such materials, for the time being, by including in parentheses those portions that may or may not be read as part of the name, until such time as the registrant found it convenient to devise more suitable labels. Insofar as possible the name of a product should be fairly simple, all in the same size and style of type, and be so arranged as not to be confused with other words or symbols printed on the label. If labels bear an acceptable name, that name will be read identically by everyone.

There should be no variation of the brand name in the heading of different panels of the same label or between labels for different sized packages of the same product. Whenever reference is made to the product by name, it is preferable to use the complete registered brand name. If the registered brand name in full shall appear in the first part of the opening paragraph of the descriptive matter, subsequent references to the product in the descriptive matter may be by using only a portion of the registered brand name under which the product is sold, if this is not confusing. If this practice is followed, the label and literature must be consistent throughout in this respect. A registrant may register the same material under as many names as he chooses, but he cannot register a brand name that is the same, or very nearly the same as a brand name already registered. A registered brand name receives priority until the Bureau receives legal authority to do otherwise.

If the brand name implies the presence of a certain chemical compound or material, that ingredient must be of major importance in the product. For example, XYZ Rotenone Spray must have enough rotenone to give the effect of a rotenone spray. If it depends on something other than rotenone for its effectiveness then it is misleading to call it or refer to it as a rotenone spray. No one has any doubt what is meant by the term "sulphur matches," and so it should be with all economic poisons.

A trade name is not acceptable in California as the name of an active ingredient of another product. For example, if a manufacturer uses "Black Leaf 40 10%," he no longer has "Black Leaf 40" 10%, but "nicotine expressed as alkaloid 4%." Meaningless trade names are more difficult with which to deal. Where a registrant wishes to indicate the use of his own registered brand name product in the manufacture of a material he may do so in addition to the required statement of ingredients. Insofar as possible the names of the ingredients should be definite chemical names of compounds capable of determination. The names of commonly known materials, such as petroleum oils, tar acids, powdered areca nut, diatomaceous earth, are acceptable on labels of economic poisons as the names of ingredients when more precise terms cannot be used. The term, "Pyrethrum Powder," is acceptable as the name of an active ingredient on a label of economic poisons (and also in the application) provided that the percentage of pyrethrins be also given in the confidential application as a guarantee of the quality of the material. Ambiguous chemical terms are not acceptable as names of ingredients if exact terms can be used. Sometimes they can be qualified, or the composition stated in terms of some determinable equivalent, to permit determination of conformity to guarantee.

(*Turn to Page* 103)

The Swing is toward
ATLANTIC ULTRASENE
A BETTER BASE FOR BETTER INSECTICIDES
WRITE TODAY FOR LIBERAL FREE SAMPLE
THE ATLANTIC REFINING COMPANY • TECHNICAL SALES DIVISION
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INSECTICIDE ANALYSIS

A discussion of Official Methods for the determination of pyrethrins and rotenone

By J. J. T. Graham*

Food & Drug Administration, U.S.D.A.

BEFORE taking up the discussion of methods it may be well to say a few words about the Association of Official Agricultural Chemists, the purpose for which it was founded and methods of its operation. The Association was organized 55 years ago by a group of government and state chemists who were engaged primarily in the enforcement of regulatory laws applicable to fertilizers.

The principal object of the Association, as now stated in its constitution, is to secure, devise, test, and adopt uniform and accurate methods of analysis of fertilizers, soils, foods, feeding stuffs, dairy products, insecticides and fungicides, and other materials relating to agricultural pursuits; also medicinal products; caustic poisons; paints, paint materials and varnishes.

The active membership in the Association is restricted principally to chemists and other workers in the United States and Canada charged with official control of any of the materials previously mentioned.

Chemists connected with commercial firms or institutions and others interested in the objects of the Association who are not eligible to membership may attend its meetings, take part in the discussions, and present papers.

Study of methods is conducted under the direction of referees who are appointed annually to supervise the work under each subject in which the association is interested. It is the duty of these referees to investigate various methods and decide which are the most promising as to accuracy and general suitability under the conditions for which they are to be used. Having decided on what appear to be the most promising procedures, the referee sends carefully prepared, uniform samples of the product under consideration, accompanied by detailed instructions to the collaborating chemists in various parts of the country. These chemists make analyses of the samples following the directions sent them by the referee and report their findings to him. When these reports, together with any comments the analysts choose to make are received, the referee, after comparing and studying them, makes recommendations for action by the Association.

Methods are designated as "tentative" or "official". To attain the status of "official" it is necessary for a method to be adopted as "official" at two annual meetings of the Association. "Tentative" methods are those whose accuracy is not of the same high order as "official" methods, but which are considered to be the best for the purpose known at the time of their study. Methods which have had only one action of the Association toward their adoption as "official" are also considered as "tentative" until finally adopted as "official".

After a study extending over several years the association has adopted methods for the determination of pyrethrins in pyrethrum powder and in mineral oil extracts; and of rotenone and ether extract in derris and cube powders.

Pyrethrum Powder

THE Mercury Reduction Method for Pyrethrin I, proposed by Wilcoxon (8) and modified by Holaday (2) has been adopted as an "official method, first action".

In this method a quantity of sample, usually 12.5-20.0 grams, is extracted with petroleum ether, the solvent evaporated and the residue saponified with an alcoholic solution of sodium or potassium hydroxide. The alcohol is boiled off, filter-cel and barium chloride added, the solution made to volume and filtered. An aliquot of the filtrate is acidified with sulfuric acid, filtered and extracted with petroleum ether. The petroleum ether solution is then extracted with N/10 sodium hydroxide, which is drawn off into a small beaker and treated with Deniges' mercuric sulfate reagent. The reduced mercury is precipitated with sodium chloride in presence of alcohol, filtered, and the mercurous chloride washed with alcohol and chloroform and titrated with standard iodate solution.

For the determination of Pyrethrin II, following determination of Pyrethrin I by the Mercury reduction method, a modification of the Seil (7) method was adopted as "Tentative". In this method the aqueous residue from the petroleum ether extraction is concentrated to about 50 cc. and excess of sodium bicarbonate added and the solution extracted with chloroform. The aqueous portion is then acidified, and extracted with ethyl

** Paper presented before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., Washington, D. C., Dec. 5, 1939. Mr. Graham is referee on insecticides and fungicides, Assn. of Official Agricultural Chemists.*

KILLER

of (Not Alone) FLIES but also

BEDBUGS, ROACHES, SILVERFISH and MOSQUITOES

...PYRETHRUM

SCIENCE-TESTED, time-tested and "clinically" tested, Pyrethrum packs a killing wallop against flies, roaches, bedbugs, silverfish, mosquitoes and other pesty insects. Our point is this: Relatively high prices have created a demand for pyrethrum substitutes and activators, altho many claims for these remain unsubstantiated. A number of them have performed poorly against the hardier pests, roaches and bedbugs. ¶ Pyrethrum still reigns supreme. Fact of the matter is that with its all-round insecticidal efficiency, it is actually much more economical and, more important, is a top notch trade and good will builder. When it comes to pyrethrum extracts, use . . .

PYREFUME "THE PERFECTED PYRETHRUM CONCENTRATE"

PYREFUME ADVANTAGES—

A high "knock-down and kill" potency tested physiologically • Pyrethrins content rigidly assayed after extractions. • Assured stability through special Penick process • Blends clearly with usual oil bases and stays clear • Unusually stainless • Singularly free from unpleasant odors: less perfume required • Costs less due to Penick economies.

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ether. The ether is evaporated and the Pyrethrin II is determined by titration with N/50 sodium hydroxide.

The Mercury Reduction method as originally proposed by Wilcoxon was subject to certain errors. Martin (6) has pointed out that the relationship between the milligrams of monocarboxylic acid present and the cc. of iodate solution used in the titration is not a strictly linear one. This fact was also implied by Wilcoxon when he limited the application of the method to samples of a size to contain 50-70 mg. of Pyrethrin I. These errors are caused by unsaturated organic compounds that are precipitated along with the mercurous chloride and react with the iodate solution during the titration.

Holaday modified the Wilcoxon procedure by precipitating the mercurous chloride in the presence of alcohol and washing the precipitate with alcohol and chloroform. This modification removes the unsaturated organic compounds from the precipitate and prevents errors of titration due to their presence.

Holaday and Graham (3) have studied the effect of different quantities of Pyrethrin I on the reduction of Deniges' reagent. Using aliquots of a solution of petroleum ether extract representing quantities of Pyrethrin I between the limits of 3.2-114.2 mg. and plotting the milligrams of pyrethrin determined against aliquots of solution used, the graph obtained was a straight line passing through the origen, proving that the reduction of the mercury was proportional to the quantity of Pyrethrin I present.

In the titration the mercurous chloride is introduced into the flask on the filter paper. The presence of the filter during the titration will have no appreciable effect, if a moderate sized paper is used. A large filter paper should not be used because during the shaking it disintegrates and has a tendency to emulsify the chloroform or carbon tetrachloride indicator and retard its separation, thereby making the end-point more difficult to determine. There should be no difficulty in determining the end-point if a 7 or 9 cm. filter is used. The end-point is not permanent, but the color of iodine will not return to the indicator until after a lapse of 5-10 minutes.

One fact in regard to this method that strongly recommends it, is that it is not sensitive to outside influences. The time of reduction specified is one hour, but it is not necessary for this to be strictly observed. Reduction periods varying from 0.5 to 3.0 hours will give identical results. It is also unnecessary to use exactly 10 cc. of the Deniges' reagent. Holaday and Graham in the work previously mentioned, used 15 cc. quantities of the reagent to react with the larger aliquots and obtained results that are strictly proportional.

The Wilcoxon-Holaday method is probably the most accurate yet proposed for the determination of Pyrethrin I. Apparently there is no component of the pyrethrum powder except Pyrethrin I that will reduce the Deniges' reagent under the condition of the analysis.

None of the methods suggested for Pyrethrin II are considered to be entirely reliable. The Seil method is probably the best that has been proposed. The results by it are reproducible, and the method is very generally used.

Pyrethrum in Mineral Oil

THE analysis of commercial pyrethrum extracts in mineral oil presents a far more difficult problem than that of pyrethrum powder. These products may contain many different odor principles, as well as other insecticidal ingredients such as organic thiocyanates, constituents of derris and cube, Isobutyl undecyleneamide (I. N. 930) and others.

The mercury reduction method which has been adopted as a "tentative" method seems to give satisfactory determination of Pyrethrin I in such products, and so far as we know it is the only method that is applicable to all of them. The Seil method, which is also used to determine Pyrethrin I and II in some of these products will give high results in presence of Isobutyl undecylenamide and probably other constituents sometimes used in insecticides of this type.

Derris and Cube Powder

AT the December 1938 meeting your association directed the chairman of the scientific committee, Dr. Alfred Weed to make a study of the Jones-Graham (5), Jones titration (4), and Seil methods for the determination of rotenone in order to find a correlation of determined values between the Jones-Graham and Seil methods. In view of the fact that the speaker was also going to study the first two methods as referee on insecticides for the Association of Official Agricultural Chemists, it seemed desirable to collaborate with Dr. Weed, use the same samples and exchange analytical results.

Through the cooperation of several members of your Association, five representative samples of derris, timbo and barbasco, varying in rotenone content from about 1.0 to 8.0 per cent, were assembled and used for collaborative analysis. These samples were analyzed by 12 chemists, 6 of whom collaborated with Dr. Weed.

Most of the results reported were in fairly close agreement among the different analysts, but one or two reported results that were consistently low. The sample on which the poorest results were obtained had a very low content of rotenone and it was necessary to add at least 0.8 gram of pure rotenone to each determination in order to obtain complete crystallization. Possibly rotenone of varying degrees of purity may have been used by the different analysts and this may account for some of this variation. This sample did not act normally when the titration procedure was used. It was very difficult to prepare the dichloroacetic acid solvate, and when obtained it was a yellow mass instead of the fine white needle crystals usually obtained.

Last year, nine chemists collaborating with the speaker, obtained results by the Jones-Graham method that were quite uniform. This method

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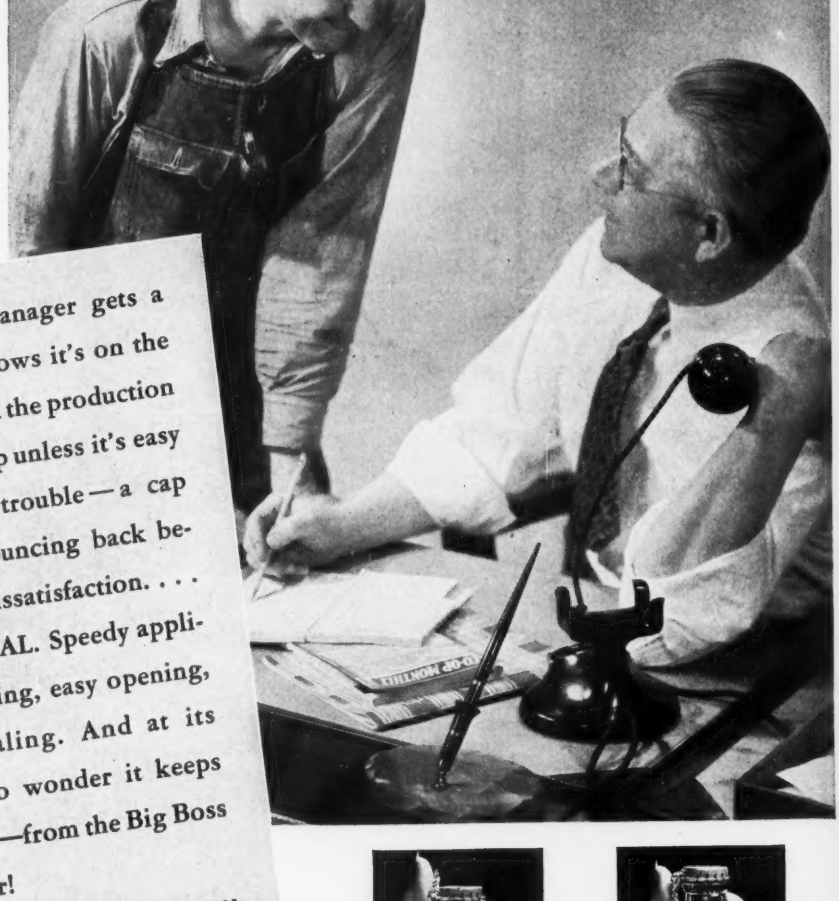

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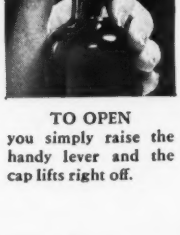

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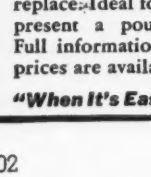

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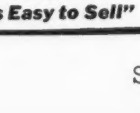

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was adopted as "tentative" in 1937 and in 1939 was adopted "official, first action".

In the analysis of cube powders it was found (1) that mixing 10 grams of decolorizing carbon (Norit-A) with the sample in the extraction flasks gave higher values for rotenone than those obtained without its use, the increase ranging from 0.5 to 0.8 per cent. No significant differences were obtained in the values for rotenone in the derris samples, the results being within the limits of reproducibility of the method.

In using this method the analyst should be careful to maintain the temperature of the precipitate and wash solution at 0°C. and to use no more wash solution than necessary to transfer the solvate to the Gooch crucible and wash out excess mother liquor. Excessive washing at this stage will result in slight losses of rotenone. Any contaminants remaining in the precipitate will later be removed in the alcohol purification step. It should not be necessary to use more than 10-12 cc. of the wash solution.

Another important point is to see that the crystallization is well advanced before storing overnight in the ice-bath. In some cases, especially with samples of cube, crystallization is slow to begin. It is good practice to cool the crystallization flasks containing the carbon tetrachloride solution of the extract, in ice water, swirling the flasks occasionally until the crystallization is well advanced, before storing in the ice bath.

Jones and Graham (5) called attention to the fact that rotenone is difficult to extract from samples in which the ratio of rotenone to total extractive material is greater than 40 per cent. They suggested that for material in which the ratio was greater than this, an alternate extraction procedure be employed, using successive lots of chloroform. In this procedure the extraction is carried out on a shaking machine for four hours as in the regular extraction. It is then filtered by suction, the marc returned to the flask and extracted for an additional 2 hours with fresh solvent. This is repeated until four extractions have been made. The filtrate is combined and the rotenone determined as in the regular procedure. In the analysis of material of a high rotenone content a quantity or aliquot should be used such as to give 1.0-1.5 grams of rotenone in the final precipitate.

The method as adopted provides for the use of decolorizing carbon and multiple extraction for the high ratio material. With these exceptions the text is exactly as published (5).

The official method for total ether extract provides for extraction of 5 grams of the powdered root in a Soxhlet or other efficient extractor for 48 hours, filtering and evaporating the extract, and drying to constant weight in an oven at 105°C. (by constant weight is meant that two successive weighings shall not vary more than 0.1 per cent following an additional hour of heating).

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Athletes' Foot

(*From Page* 89)

commented on a number of times and is likewise objectionable to some people.

Fungicidal materials which have been emulsified with soap even though clear when first diluted, in a short time cloud and become streaked with a fine precipitate presenting an unsightly appearance. In some situations such as places where the floor is linoleum rather than tile, strong hypochlorite solutions may be objectionable. These solutions have a decided reaction on linoleum. Some materials may stain and be ruled out for that reason. Still others may cause rubber to swell and deteriorate and for that reason cannot be used in the usual rubber foot baths.

It is to be hoped that careful study of the conditions under which foot bath solutions are used will result in complete and carefully elaborated standards which will meet every requirement of both manufacturer and user. In the meantime publication of the tentative standard by public health and purchasing groups should be helpful in focusing attention on the problem involved.

Insecticide Labeling

(*From Page* 97)

A commercial structural and household pest control operator in California, who properly uses only registered economic poisons in his work, is not required to hold an economic poisons certificate of registration. If he mixes his own materials, or otherwise does not conform, he does require a certificate of registration, inasmuch as use-sale is sale. One economic poisons registrant who carried on a structural and household pest control service writes: "It may interest you to know that having the labels appear on the spraying and dust tanks has proved of much value. The average person wants to know with what his home is being treated; this certainly removes any doubt from his mind."

In conclusion, please let me state that the past year has been a very satisfactory one, accompanied by real progress. The Bureau has clarified the demands upon the industries, and has enjoyed excellent cooperation from registrants. We believe there is a keener sense of social responsibility now than ever before. Spiritual factors frequently influence economic ones, and many know that purchasing power is as much psychological as it is economic.

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RAW MATERIAL SYMPOSIUM

Pyrethrum, rotenone, cresylic acid, coconut oil, potash, and chinawood oil markets discussed by leading authorities

Symposium conducted by
Charles C. Concannon*
Chief, Chemical Division,
Dept. of Commerce

THE chaotic conditions which prevailed in the insecticide and disinfectant industry following the outbreak of war in 1914, fortunately can never occur again. At that time, world supplies of many chemical raw materials essential to your industry came mainly from the nations then at war, particularly Germany. Today the situation is entirely changed. The recent outbreak of war in Europe did not result in a general price rise in all basic commodities. It is true that the prices for many materials, those that must be obtained from abroad such as pyrethrum and coconut oil, did move up, and in many instances these increases were not justified by the increased cost of transportation and insurance. This was partly the fault of the industry. Buyers who in August were content to operate with minimum inventories felt it essential in September and October to build up large reserves at any cost. Prices naturally moved up. Recently, however, the buying hysteria has subsided, and prices in most instances have eased.

While the United States is self-sufficient in most insecticide and disfectant raw materials, the industry is still dependent upon foreign countries for certain products. These naturally are the ones most affected by the war.

PYRETHRUM was first introduced into the United States about 100 years ago. In 1914 we imported slightly over 500,000 pounds valued at a little less than $100,000, most of it coming from the Dalamatian coast of what is now Yugoslavia. By 1918 receipts passed the 2,000,000 pounds mark and 20 years later, in 1938, more than 14,500,000 pounds of pyrethrum were imported. By this time the source of supply had shifted from Europe to Japan in the Far East. Supplies were also beginning to come from East Africa and elsewhere.

In 1914 practically all of your pyrethrum supplies originated on the Dalmatian coast but today only 2 per cent of our requirements come from that area. As world requirements, and particularly the requirements of the United States, increased, sources of supplies shifted. In 1938 we find Japan supplying 75 per cent of our imports; Kenya Colony, East Africa, 20 per cent; and Brazil, another newcomer to the field, 3 per cent. Before Kenya started exports of pyrethrum in 1935, Japan was filling 97 per cent of our orders. In the beginning pyrethrum was used mainly in powdered form. Its widespread use came with the development of liquid insecticides.

Not long ago all prominent brands of fly sprays were dependent upon pyrethrum for their effectiveness. Today, however, many use extenders and synthetics and research continues. Present high prices of pyrethrum will no doubt result in intensified research in this field, and lead to increased plantings in different areas, particularly since the pressing need for food in Japan may result in reduced pyrethrum acreage in that country.

IN THE past ten years, derris root from tropical Asia, and barbasco, cube, timbo and other botanicals of the same family from the Amazon Valley have met with general acceptance as insecticide materials in the United States. Since rotenone was first introduced into this country as an insecticide, the Bureau of Foreign and Domestic Commerce has been active in assembling information on the subject, particularly with reference to sources of supply. In 1936, the first year for which we have records, the United States imported a total of more than 700,000 pounds of crude cube and timbo roots, and in the first nine months of the current year receipts passed the 1,300,000 pound mark. Imports of crude derris root increased from 500,000 to 1,575,000 pounds during these periods.

In an effort to prevent the propagation of timbo root in other areas, the State of Para in Brazil has enacted legislation which prohibits the exportation of timbo roots. They

*Symposium conducted before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., Washington, D. C., Dec., 1939.

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must be finely ground before being shipped out of the state. In this form timbo roots are subject to duty when entering the United States. In 1936 our imports of ground timbo roots aggregated 1,125,000 pounds and in the first nine months of the current year, 780,000 pounds.

CRESYLIC acid is used extensively in the various branches of the chemical industry, particularly in the manufacture of synthetic resins, and in germicides and disinfectants. For the latter purpose, not only the lower phenols are used, but also the xylenols. The latter, which give a high germicidal coefficient to disinfectants, are found largely in blast furnace acids and tar acids obtained in the low temperature distillation of coal.

While the United States today produces large quantities of cresylic acid, it was, prior to the outbreak of hostilities last September, importing as much if not more than it did 25 years ago. This is not because we cannot produce our entire requirements of this product, but is due to economics. As a matter of fact, only about 50 to 60 per cent of the available coal-tar in the United States is being distilled at present; the rest is burned.

In 1914 the United States imported a total of about 8,500,000 pounds of crude cresylic acid. As the war, in progress at that time, continued, our imports declined. By 1915 imports had declined to 3,000,000 pounds, the year following only 2,000,000 pounds were received from abroad, and by 1917 the total had declined to less than 300,000 pounds.

Following the war, however, as European plants became rehabilitated to peace-time operations, imports of cresylic acid into the United States were resumed. In 1937, for example, we imported a total of more than 16,000,000 pounds of cresol or cresylic acid and last year 10,000,000 pounds were received from abroad—the United Kingdom and Germany being the leading suppliers. Again as the war progresses, we find imports declining. In the first half of the current year, receipts aggregated 5,000,000 pounds. In July the total aggregated 1,000,000 pounds, in August, 600,000 pounds, and in September, the first month of the current conflict, only 300,000 pounds were received from Europe. This downward trend will no doubt continue. Our domestic production of cresylic acid is quite extensive, and, as previously pointed out, capable of considerable expansion. In 1938, for example, our domestic output of intermediate cresol exceeded 11,000,000 pounds.

CHINAWOOD oil, also known as tung oil, has been an important item of commerce in China for centuries. Although tung oil was first introduced into the United States in the year 1869, it was not until 1905 that the value of this product was fully recognized, and its widespread use in this country really dates from the World War. In 1914 our imports of tung oil aggregated 35,000,000 pounds. Since, our imports have expanded, until in 1937 the record amount of 175,000,000 pounds were imported. Following that year, however, due in part to the Sino-Japanese conflict, receipts have declined. Last year we imported a total of 108,000,000 pounds from China, and in the current year the figure is expected to show a further decline. In the first ten months receipts amounted to 63,000,000 pounds.

Tung oil has been used for centuries in China in the manufacture of varnishes and waterproofing compounds. Here in the United States it is now used in varnishes, inks, floor compounds, and for a variety of other purposes, too numerous to mention. We are the world's largest users of tung oil, normally taking around 75 per cent of the world's available supply. China continues to be the largest producer of tung oil, but the tung tree is being introduced into other parts of the world.

Here in the United States considerable progress has been made with tung culture, particularly in certain parts of Florida, Georgia, Alabama, Mississippi, Louisiana and Texas. Frost has been our main handicap in cultivating tung trees. In 1938 a total of 3,000,000 pounds of oil were produced from American-grown tung nuts, but during the current year, due to spring frosts which affected the blossoms, the yield is not expected to exceed 1,000,000 pounds.

The present conflict in China has made it difficult to clear tung oil shipments from that country and prices have risen sharply. These rising prices, together with the uncertainty of supply, have brought substitutes. In the main, these substitutes have consisted of combinations of perilla, soybean, castor and linseed oils. Synthetic resins are also being used to reduce consumption of tung oil.

PRIOR to the war which began in 1914, Germany enjoyed a world monopoly of mineral potash. Its alkali plants converted the crude chloride into carbonate and hydroxide. In 1914 the United States imported 10,300 short tons of potassium carbonate, 6,440 tons of the total coming from Germany. The elimination of Germany as a supplier in 1918, was, needless to say, keenly felt by our consuming interests. In that year, however, we were able to import 7,235 tons of potassium carbonate, which included 5,000 tons of sunflower ash supplied by Russia. Our domestic industry succeeded in producing 913 tons of crude carbonate during 1918, mainly from wood ashes, and an output of 114 tons of refined carbonate was reported during that year.

That situation taught the American industry a lesson. Today the picture is entirely different. In 1937, three plants, all located in New York State, produced more than 6,000 tons of high-grade potassium carbonate, and our imports of this product had dropped to less than 300 tons. Raw materials for potash chemicals are now available from bedded deposits in New Mexico, and from brines in California.

The same story applies to potassium hydroxide. In 1914 we imported 4,225 short tons of this product, 3,770 of the total coming from

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Germany. By 1918, due to the war of course, our imports had dropped to but 5 tons and our domestic producers were able to supply 992 tons during that year.

From this modest beginning the American industry grew until in 1937 it was able to supply 10,840 tons from three plants located in New York State, one in California, and one in West Virginia. Our self-sufficiency at that time was almost complete—only 486 tons of potassium hydroxide were imported during that year.

WHILE soaps can be made without the use of coconut oil, and some are, the American soap industry, as it stands today, finds this raw material essential to its well-being. There is no world shortage of coconut oil today, and none is likely to develop. The world is too full of coconut trees. The wars in Europe and elsewhere, however, have brought about a transportation problem in connection with our copra and coconut oil supply which is worthy of consideration.

The principal copra producers and exporters are the Netherlands Indies, the Philippine Islands, and British Malaya; the principal importers, the United States, Germany, and France; the principal producers of coconut oil, the Philippines, the United States, Germany and France; the exporters of the oil, the Philippine Islands, Ceylon, and British Malaya; and the principal importer of coconut oil is the United States. The world production of coconuts in terms of copra is probably something over three millions tons a year.

The Netherlands Indies are the largest producers and exporters of copra, accounting for nearly two-fifths of the world total in recent years; however, the Philippines ship nearly one-half of the coconut oil entering international trade, most of which is destined for the United States. We average about one-fifth of the world's copra imports, over nine-tenths of which arrive from the Philippine Islands. Coconut oil and the oil equivalent of imported copra are our heaviest imports in the fats and oils field, amounting to as much as 36 per cent of all imports in this group in 1938, when the price was lower than competing products. Its principal use in this country is in the manufacture of soap, where it follows tallow as a leading ingredient. Last year the soap industry absorbed two-thirds of the coconut oil consumed in factory operations, the rest going into edible products, of which 15 per cent entered shortening, 50 per cent margarine, and 35 per cent into other edible products, including fancy crackers, candies and other confections.

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PYRETHRUM

By L. W. Jones
McCormick & Co.

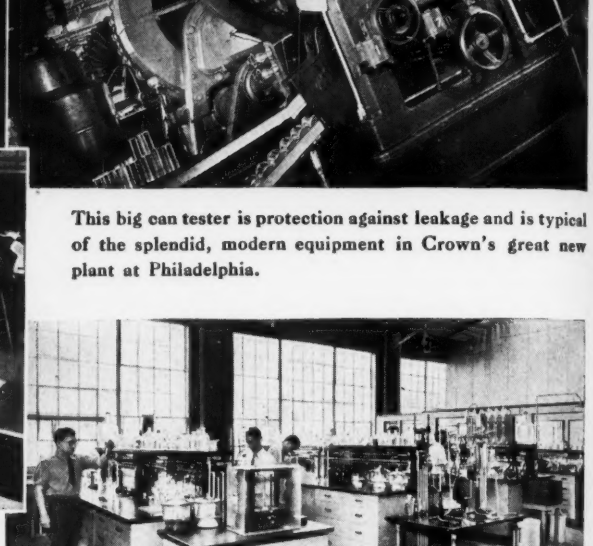
WHILE there are more angles to the future trend of the pyrethrum market than the war is likely to bring about, I will endeavor to cover the future situation as it appears to me. Although the European war continues to be the most important single factor in the domestic business outlook, it is still uncertain how long hostilities will continue. However, there seems to be little information on which to base hopes of a real peace. It is also very uncertain whether the war, if continued, will follow recent cautious defensive principles, or whether it will follow a more active phase. Until these questions are answered, the future course of business activity will undoubtedly remain obscure. The war has had little connection with the spectacular rise in business activity, or with the increased price of pyrethrum flowers over the past year. Industrial production in this country was increasing prior to the outbreak of war in Europe, and orders received by manufacturers since that date have been primarily domestic.

In order to satisfy the groups of foreign customers, export orders were anticipated, which stampeded some of the buyers into wild efforts to be the first to get their orders on the books. A number of businesses are now booked so far ahead that a sudden conclusion of European war might well produce a temporary panic with history repeating itself as at the end of the last world war. However, this would not be the case with buyers of pyrethrum flowers, many of them waiting until the last minute to cover for their actual requirements. These buyers hoped that as far as the Japanese situation were concerned, there would be a reduction in the price of pyrethrum flowers after quantities of the new crop were accumulated.

It is very difficult to predict the future market as far as the Japanese situation is concerned, taking into consideration the enormous amount of insect powder now being used by the Japanese Government. This condition alone should keep pyrethrum prices somewhere around their present high level. The carry-over from the previous crop has been very small, while the new crop appears to be about normal. Japan, at the present time, is a very small country with a vast population, with very little room at present for agricultural expansion. One angle which has evidently appeared in Japan recently is that the Japanese farmers have now learned that soil in Japan is a dear commodity and must pay them a return. If they cannot get a reasonable return from growing pyrethrum flowers, they must forget pyrethrum and plant something else in its place.

Many buyers in this country have been endeavoring to set up standard purchasing forms for buying Japanese pyrethrum flowers, fully realizing that if any change takes place in the control of the pyrethrum situation in Japan, they will undoubtedly receive poorer grade flowers than those containing the proper pyrethrum content. If this should happen, flowers would undoubtedly test below .9 per cent pyrethrins. Such a buying standard would protect the American buyers should such control come to pass. Many tons of Japanese pyrethrum flowers were purchased during 1938 on this basis. For those who are

Quality CONTROL



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not familiar with this plan, I will take a few minutes to review it.

American buyers were to specify that future offerings of pyrethrum flowers must be sold on arrival analysis and weight based on the Seil method of chemical analysis. On this basis Japanese pyrethrum flowers shipped from Japan will be guaranteed a minimum of .9 per cent pyrethrins on arrival by the Seil method. The purchase price will apply on flowers testing from .9 to .97 per cent pyrethrins inclusive. If pyrethrum flowers run under .9 per cent pro rata allowance to be made, and if flowers are below .8 per cent, buyers have the privilege of rejecting same. If, therefore, the purchase of Japanese pyrethrum flowers were on this basis, it would make little or no difference as to who controlled the pyrethrum situation in Japan but would assure the American buyers that they would only pay for the material received based on the pyrethrin content.

Another angle that may be of interest in the protection of the American purchasers of pyrethrum flowers is that should the Japanese Government take over the control of pyrethrum flowers they would still be more or less compelled to appoint exporters. This is especially true when one takes into consideration that the merchants in the farming sections submit their flowers for inspection and the price to be paid is fixed by the inspectors according to the grade of pyrethrum flowers as submitted. As far as the merchants are concerned, the question of pyrethrin content is disregarded in the terms of their contract, whether such content be ascertained at the time of delivery in the producing district in the export market or abroad after arrival. These dealers, exporters or suppliers, which ever they may be termed, who buy the flowers from the country merchants or producers, have no right of claim against them when the pyrethrin content of their purchases registered below the required percentage. You can therefore appreciate that if all shipments which ran under .8 pyrethrin content were going to be rejected, they would be more careful in their selection of grades to be exported.

You may wonder what bearing this has on the future of the pyrethrum market. As far as I am concerned, I believe that it has a great bearing due to the fact that there are other producing countries which are now becoming a factor in the industry. As an illustration, we shall take the African flowers from the Kenya Colony which is fast becoming important as a source of supply for pyrethrum flowers. The planting which began in Kenya South Africa during 1928 as an experiment, has now become of considerable significance in the economy of the Colony, according to a report from the American Consulate at Mairoba. Exports of pyrethrum from the Colony during 1938 aggregated four million pounds, valued at about $900,000, of which almost 90 per cent of the total came to the United States. The amount exported in 1938 was almost double the quantity shipped out of the Colony during the preceding year. This indicates that rapid progress is being made with this particular crop, the value of which to the Colony is exceeded only by coffee.

The United States with its large insecticide industry is the world's largest consumer of pyrethrum flowers, all of which are imported. Imports of this botanical have averaged about 15,500,000 pounds per annum during the past three years, with 80 per cent of the total originating in Japan. We cannot discount the Brazilian flowers which are also increasing rapidly in production each year. Both the Brazilian and Kenya flowers are superior to Japanese flowers. I further believe that as flowers are produced in these countries, the quality, notwithstanding the high pyrethrin content, will be materially improved. My reason for mentioning these two producing countries is because of the fact that both the Brazilian flowers and the Kenya flowers have been sold on a percentage of pyrethrin content, the price of which has been based on the .9 minimum pyrethrin content as the minimum heretofore sold by Japan at time of shipment.

Now, if these factors, and I believe I am fair in calling them factors, continue to increase their production of pyrethrum flowers, then the picture will automatically change, and if Japan wishes to hold the dollar and cent volume, she will be compelled in later years to sell pyrethrum somewhere in the neighborhood of 10 to 12 cents per pound, c.i.f. U. S. ports. Kenya flowers will also be offered at a lower figure, because the price of Kenya flowers is based on the selling price of Japanese flowers. Therefore, while the pyrethrum market based on circumstances outlined above is slightly higher this year, at the same time when readjustment sets in because of other producing countries, I firmly believe you will see lower prices ruling on Japanese pyrethrum flowers.

In closing, I would like to give the latest report on pyrethrum imports which are materially down. The United States imports of pyrethrum flowers decreased sharply last year to 14,537,000 pounds from the record amount recorded of 20,000,000 pounds which were imported in 1937. During 1938 Brazil entered the field as a new supplier on a fairly large scale, contributing to the United States 497,000 pounds of pyrethrum flowers, from which you can see that it is only going to be a question of time when this country will be an important factor in the industry.

—— ♦ ——

ROTENONE PRODUCTS

By Harold Noble

S. B. Penick & Co.

WHEN the war broke out, stocks of derris and cube roots were at a low level here in the States. The heavy consuming season had just ended and plans were under way by importers and millers to build up stocks for the 1940 season. A considerable degree of interest in these rotenone roots was evi-

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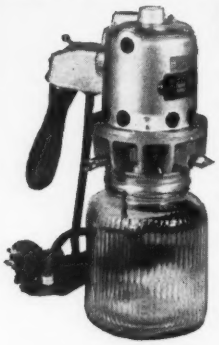

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denced by consumers in the first weeks of the war but nothing like the semi-hysteria which occurred in many other commodities. Some sellers continued to book forward business from their stocks in hand at slight advances in price; other sellers declined temporarily to offer contracts until the situation became more clarified. In short, there was no undue excitement, but cables were dispatched to the producing sections to ascertain the replacement position.

The sellers of derris, during the early part of September, were unable to engage steamer space for forward shipment. Furthermore, the war risk insurance schedule, under which shipments move forward today, was not then established. Therefore, for a few weeks, no definite news was to be had about replacement costs. When the shippers actually made offers, it was found that their prices were advanced 20 to 25 per cent. This had been anticipated, however, since holders of commodities the world-over figured some appreciation of values due to war conditions.

In the case of derris, the price advance was not extreme, and hence had no serious effect in disturbing the market. Since then prices have eased off somewhat, and at present, since the temporary flurry has subsided, adequate supplies are available at prices quite near those prevailing before the war. In short, we feel that unless unforeseen circumstances develop, there should be no serious upset in the derris market, but forward protection on contract is to be recommended, as by this means responsibility for providing supplies rests on the importer and miller.

About cube from South America, at the time the war broke, there was practically no cube to be had for shipment from that origin. This very likely was caused by the litigation over the Dennis Patent. Some dealers had, a year or so ago, removed themselves from the market for fear of liability should this patent be ultimately upheld. Other dealers had obligated themselves to pay royalties to the patent owners, which had the effect of advancing the selling price of such cube as was sold. The price of derris in 1938 and 1939 had declined so that it was practically on a parity with the royalty-paid cube, and this being the case the buyers generally preferred derris. The producers in Peru, therefore, were quite discouraged and had disposed of their stocks, mainly to Europe, at sacrifice prices. The Dennis Patent was declared invalid by the Court of Appeals in June and a few weeks ago the Supreme Court declined to review this decision. Therefore, this patent is not even "moribund," it is dead!

Cube can be produced in Peru at prices approximating those prevailing before the war, and these months are their collection season. They are now busily engaged in increasing production, since the various South American countries are anxious to ship raw material which America requires to offset trade balances against them. We look for adequate supplies of cube root for the 1940 season at *no* sharply advanced prices, unless, as stated in the case of derris, there are upsets which at present we can not foresee or foretell.

In 1937, 570,000 pounds of derris, and 1,800,000 pounds of cube and timbo came into the U. S. In 1938, 750,000 pounds of derris came in and 2,325,000 pounds of cube and timbo. Therefore, in 1938 there were 3,075,000 pounds of rotenone roots imported here.

For the first nine months of 1939, 1,500,000 pounds of derris arrived and 2,000,000 pounds of cube and timbo, making a total for the nine months of 3,500,000 pounds. It appears that before the year is out we will have brought in well over 4,000,000 pounds, indicating an increase of 33-1/3 per cent over 1938. The imports this year are 66-2/3 per cent over 1937, showing a very sharp increase in usage.

Potential production of rotenone roots likewise is increasing. The rubber estates in the Far East are cultivating larger quantities of high test root, aided by the British Government Station at Kuala Lumpur in the Federated Malay States and the Netherlands Experimental Station at Buitenzorg, Java, likewise is aiding the Dutch growers.

You may be interested in knowing of the use of these rotenone roots in Europe and the possible effect of the war upon their distribution. Britain uses derris for the control of warble fly extensively, and undoubtedly will be able to continue without serious interruption. Southern France and northern Africa likewise have adopted its use for agricultural purposes, and shipments are reported going into the Mediterranean without serious shipping interruptions or much higher costs. The Scandinavian countries are experiencing difficulty in imports these days, and actually show great concern about their ability to continue to do business as neutrals in face of the restrictions imposed by the belligerent nations. There may be some disturbances there but in our opinion, not to any extent which would affect the market. America is the largest consumer.

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TAR ACIDS

By J. H. Carpenter

Koppers Company

TAR acids may be classified as the phenolic constituents of coal tar which can be extracted by caustic soda through the formation of soluble sodium salts not miscible with the oil in which the acids originally occur. We will first consider their uses, secondly their availability and thirdly, prices in a general way.

1. USES:

Disinfectant and insecticide manufacturers have uses for three different kinds of tar acids, i.e. cresol, cresylic acid and tar acid oils. The first of these, U.S.P. Cresol, is relatively simple because the cresol must simply comply with the specifications of the Pharmacopoeia and, when purchased that way, and compounded as prescribed by the Pharmacopoeia, a U.S.P. Cresol Compound is sure to be obtained.

Cresylic acid is a little more complicated since it is used for both

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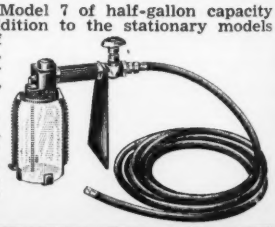

• Fumeral Stationary and Portable Diffusers are recommended and sold by leading manufacturers and distributors of insecticides and fumigants. See 1939 "Soap Blue Book." Write for illustrated literature, "Modern Warfare On Insects," data, and prices.

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coefficiency and solubility in finished disinfectants and in limited quantities in insecticides. The lower boiling tar acids such as cresols give better solubility when compounded with soaps of the linseed oil and oleic acid types but correspondingly lower coefficiencies result. The xylenols have coefficiencies several times as great as cresols and the higher boiling acids above the xylenol range several times as great as the xylenols, but solubility becomes increasingly difficult with higher coefficiencies.

The ideal cresylic acid for Technical Cresol Compounds or Bureau of Animal Industry Compounds is the one giving the required coefficiency and solubility with acids for cresol compounds, i.e. those composed mostly of cresol, those with equal mixtures of cresols and xylenols, and those composed mostly of the xylenols or higher boiling acids. Importers, on account of duty regulations, can only offer cresylic acids boiling less than 75 per cent off at 215° C., i.e. mostly xylenols if the upper part of the distillation is not high, or mixtures of limited amounts of cresol with the really high boiling acids.

Tar acid oils are perhaps the most complicated of the tar acids used in the disinfectant industry. They were formerly always sold and compounded on tar acid content alone and the disinfectant producer would make trials to determine the coefficiency and then add high coefficient acid accordingly to bring up to the guarantee under which marketed. The tar acid oil producers at the present time, however, are guaranteeing the coefficiencies obtainable, therefore it is their problem to ascertain the constituents which the tar acid oil must contain. Distillation is not a good indication of coefficiency to be expected in tar acid oils because of the variable ranges of the neutral oil incorporated. To obtain a high coefficiency tar acid oil without excess acid content, it is necessary to prepare from neutral oil and high boiling acids with a minimum quantity of phenol and cresols present. For lower coefficiencies better results in finished disinfectants are obtainable with blends of the cresols and xylenols and a percentage of tar acids not much less than for coefficiencies sometimes twice as great.

2. AVAILABILITY:

The United States probably makes a sufficient quantity of tar acids to meet any entire demand experienced up to the present time if purchasers buy in proportion to the availability as determined by natural occurrence in the coal tar. Crude tar acids generally have from two to three times as much total mixed cresols as total mixed xylenols and the acids boiling above the xylenol range occur in even smaller volumes. It is therefore necessary that the consuming industry, if dependent entirely upon domestic sources, must utilize more cresol than xylenol or acids boiling above the xylenol range. Since the disinfectant industry's requirements are not as exacting as those of some of the other industries such as resins, it is probable that when regular foreign sources are cut off as, generally speaking, under present conditions, the disinfectant industry will have to substitute acids with greater percentages of cresol in them than is the case when ample imported acid is available. During the 1914 war there was only one manufacturer in the United States and no duty to protect domestic industry from foreign competition, therefore, the United States is in a far better position to meet the demands upon domestic tar acid consumers than was the case during the previous war.

Coal tar acids are derived from coal. Coal is first coked for coke or for gas but in all such instances tar is a by-product and the coal is never coked for the tar itself. This tar is purchased by the gallon regardless of constituents it contains and tar acids in it may vary from practically nothing up to several per cent. When business conditions in general are good, large quantities of coke are produced by the steel companies and this might indicate corresponding increase in quantities of tar acids available. This increase is not necessarily true, however. Operators of coke ovens make every effort to keep the ovens continually warm and never to shut them down because of damage due to expansion and contraction. They therefore will coke on a 35-hour cycle for instance when business is poor and on an 18-hour cycle when business is good and the short coking period utilizes much higher temperatures than the long coking period. The long coking period, however, gives a much greater yield of tar acids and the variation is sometimes 100 per cent, using the same coals, between the short and long cycles. This condition brings about the possible necessity of extracting acids from twice as much tar at certain times in order to get any given yield of finished acids. The tar is not always available in this increased quantity from sources close to the tar acid plants and therefore it is frequently necessary, when demand warrants, to bring in the crude tar acids from much greater distances, therefore bringing about a higher cost at the refining plants. It might also be mentioned that not only do the total yields of tar acids fall off from high temperature short coking cycles but the total percentage of cresol and cresylic acid in the finished recovered acids also diminishes.

Briefly, tar is distilled and cut into fractions. The second fraction is the carbolic oil fraction containing the tar acids. This fraction is treated with caustic soda and carbolates and cresylates form, i.e. the sodium compounds of the tar acids. These are not miscible with the oils from which extracted and form a two layer system. These sodium compounds are then steam distilled to remove oil and naphthalene and concentrated in this operation. They are then put through the process known as "springing" by means of a weak mineral acid, i.e. the mineral acid reacts with the caustic to form a sodium salt of it and the tar acids are liberated and recovered as crude acids which are then distilled fractionally to get the finished types required.

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3. PRICES:

The price structure for tar acids is very different from that of material such as caustic soda for instance which can be obtained from unlimited quantities of salt in the earth and therefore, with respect to cost, is dependent only upon apparatus, power, and labor. If tar acids were available in tar in unvarying proportions or the tar was purchased on tar acid content and there was no foreign competition from duty free acids and no variation in fuel oil prices, prices for finished tar acids could be more stable and increased or decreased in proportion to the cost of the tar, cost of the chemicals used in the process and cost of labor and power. Tar is not, however, sold on tar acid content and yields vary tremendously even from the same sources. The price of tar varies in proportion to and is dependent upon fuel oil prices to a certain extent. When fuel oil is higher in price than tar, coking companies will burn their tar unless they can derive more from it in proportion to heat value by selling it. Thus, both the raw material for tar acids and its percentage of acids vary independently of general cost of production of the finished acids.

A further reason for variations in tar acid prices is competition brought about by duty free acids. There is no extensive demand for these higher boiling acids close to American duty free regulations, in the foreign countries. At the time our tariff was enacted there was no demand here for these higher boiling types except for a really high coefficient grade. Foreign producers gradually ascertained that duty free types could be sold and demand for them was gradually built up, at first because of lower cost and later because they gave excellent results for certain purposes. The foreign acid prices have fluctuated violently in the last few years, their prices being below 30 cents per gallon in 1933 to above $1.50 per gallon in 1937 and back to less than 40 cents per gallon in 1938 and early 1939. Domestic prices have not fluctuated nearly so greatly, not having been offered as low as the foreign at times nor nearly as high as the foreign at other times. The foreign prices have had a very depressing effect on the American grades when actually below cost or normal United States production. When such pressure is relieved, it is logical to expect that prices should rise to some normal cost basis.

In general, differences in prices for different grades of cresylic acids and cresols should be determined by the distillation range. A narrow distillation range requires more still time in production, more power and more supervision and hence higher price per gallon is warranted, regardless of whether material is phenol or cresol or xylenol. Where acids are given an extra distillation such as may generally be considered necessary for U.S.P. Cresol, an even higher price is warranted.

During the last World War, according to records available, U.S.P. Cresol sold at from about 16 cents per pound in 1915 to a maximum of 24 cents per pound in 1918 with prevailing price during the war period of about 20 cents per pound. Cresylic acid of only 95 per cent tar acid content sold at from 63 cents per gallon in 1915 to $1.20 per gallon in 1918 with the 97 per cent grade selling at from 10 cents to 15 cents per gallon higher in the later years of the war. An average price for the war seemed to be about $1.10 per gallon. 25 per cent tar acid oil sold from 32 cents to 47 cents per gallon with an average price apparently of about 40 cents per gallon.

Thus, our present drum prices of about 10 cents per pound for U.S.P. Cresol, 70 cents per gallon for a 99 per cent cresylic acid and 27 cents per gallon for 25 per cent tar acid oil compare very favorably with those of the previous war in spite of undoubtedly higher labor cost at the present time. It is impossible to predict how much consumption will increase during the present war period in which two of the world's three largest producers of tar acids are involved, but the United States is producing a vastly greater volume of tar acids at the present time than during the previous war, therefore, unless something unforeseen occurs, there is no reason to expect such drastic increases in domestic prices regardless of how much destruction occurs in Europe unless fuel oil and, in turn, tar and also labor costs advance beyond any present expectations.

In conclusion, it would therefore appear that domestic consumers should expect to be able to satisfy their normal requirements for tar acids and tar acid oils on a reasonable price basis without the fear which must necessarily have been felt by consumers in the previous war and at a time when Europe supplied a much larger percentage of our tar acid requirements in this country. Many consumers may not be able to get the exact grades heretofore imported but if the manufacturers can find outlets for all types of tar acids in the proportions in which they occur naturally after extraction from the tar, there is reason to expect further increases in manufacturing capacity when and if consumption continues at its present rate or increases further.

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CAUSTIC POTASH

By S. W. Jacobs

Niagara Alkali Co.

CONSUMERS of caustic potash have little to fear on account of war in Europe. It is doubtful if the present conflict across the Atlantic will materially affect the price of caustic potash and certainly there is slight chance that it will interfere with the ability of American producers to meet any reasonable domestic demand for this product. Any fear that consumers may harbor is but a ghost of the days of the World War which is easily laid by a consideration of changes in the industry during the past 25 years.

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Germany supplied all but an insignificant part of the world's demands for potash from natural deposits near Stassfurt. Not only did much of the crude potash come from Germany then, but most potassium compounds were made in Germany and exported in final form for use. In the U. S. there was but one lone manufacturer of caustic potash. He and his customers were completely at the mercy of the German potash cartel, since that powerful organization could at will cut off supplies of raw material or force prices too low on the finished product to permit the American manufacturer to stay in business. Under such circumstances only a small part of the demand for caustic potash in the U. S. was supplied by the domestic maker.

In this situation the effectiveness of the British blockade of German shipping in 1914-1918 was a serious blow to American consumers of potash. Regular supplies from Germany were cut off and there were frantic efforts to secure potash from other sources. Inadequate supplies dribbled in from France and Palestine. Domestic sources provided relatively small amounts. Production of muriate was started at Searles Lake, California, before the end of the war, but the output of this development merely eked out the dwindling shipments from overseas and the two together were quite insufficient at the time to meet demand. Muriate prices as a consequence soared to unbelievable heights.

The effect of this on the market for such small amounts of caustic potash as could be had was overwhelming. Extravagant prices for raw material combined with scarce and expensive labor and high conversion costs to form the basis of a speculative orgy. Resellers advanced prices to fantastic levels and consumers were at their mercy. A carload of thirty-five tons of solid caustic potash of not too good quality changed hands during that period at the astounding price of $70,000.

Happily that situation has been completely changed by removing the cause which created it. I cannot emphasize that statement too strongly. Removing the cause frees us forever from any fear that it will occur again.

Modest sums appropriated by Congress in the twenties provided for an investigation of natural potash salts in our own southwest. Workable deposits were found in New Mexico and these are now being profitably exploited. Two mines on leased government or state-owned land have been in operation for a number of years and the American Potash and Chemical Company continues to produce from Searles Lake in California. Refined muriate from the latter source has been used by most manufacturers of caustic potash for several years with growing confidence. Its quality is superior to that of the imported product, and no blockade can possibly interrupt shipments.

The potash chemical industry is now definitely American from raw material in the ground to finished product. Domestic muriate producers have been supplying an increasing proportion of all American demand for fertilizer potash, which is some 25 to 30 times as great as chemical demand. France, Germany and to a minor extent, Palestine have shared our imports and the sudden cessation of shipments from Europe unavoidably put a temporary strain on domestic muriate producers. To take up the increased load requires that both time and money be invested in new production, but in this respect the American producers of muriate can be expected to recognize their obligations to the American farmer and the chemical manufacturer and their own opportunities as well.

Since the present European war began, demand for all potash compounds has been stimulated. The reasons are not entirely clear. Partly responsible is fear by some of a shortage of supply and higher prices. Probably of greater effect is the fact that depleted stocks of finished goods have had to be replenished under pressure. This has caused delay in some shipments, but in no case to my knowledge has any regular buyer of caustic potash been forced to get along with less than his normal supply.

Today there are many producers of caustic potash in the U. S. competing keenly for business. Prices are reasonably low, quality is the best in the world, and service is complete in every detail. This is as it should be, and as a result, imports were rapidly dwindling away to nothing before war intervened. Figures showing caustic potash imported since 1929 are illuminating:

Year	*Imports (short tons)*
1929	7,821
1931	4,315
1933	3,367
1935	1,713
1936	1,546
1937	1,134
1938	485
1939 (8 mos.)	278

The last figure is noted as covering only eight months, the reason is that at that juncture shipments from abroad ceased altogether!

In 1934, the price of caustic potash declined substantially and has since remained at that low level in spite of an increase of more than 25 per cent in the cost of raw material over a period of five years. No change in the basic price structure of caustic potash has been caused by the war and forward contracts are being made at present prices.

Future prices will depend on many factors quite outside the control of the makers of caustic potash. No sharp changes are likely as plans to amplify supplies of muriate for the fertilizer industry are now completed. The requirements of this raw material for caustic potash manufacture are insignificant in comparison with other needs. Consequently no stringency beyond possible temporary delays in fitting production to changing demand are to be feared.

The effect of even these can be materially lessened if consumers will cooperate with producers to the extent of making known their forward requirements and distributing their buying as evenly as possible over the year.

American consumers of caustic potash are in a safer position today than ever before in history. Foreign wars cannot disturb this position which is based on an industry com-

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pletely American. Supplies are adequate under normal conditions and can be increased in time. Prices have shown no tendency to get out of bounds and the quality of the product is unsurpassed. Consumers have no cause for alarm at the outlook and have every reason to feel comfortable about the future.

CHINAWOOD OIL

By J. H. Lawson
Federal Varnish Co.

LOOKING at the Chinawood oil situation, from the market angle, there are two views which must be kept in mind, the short range view and the long range view. It is like driving an automobile when one must keep an eye on the hundred yards immediately ahead while at the same time looking at the horizon in the distance.

The long range view is undoubtedly full of bearish possibilities. A large tonnage of wood oil must be stored in the interior at this time either in form of oil or in form of nuts, and if the Yangtze River should be opened for the transportation of this oil, there is no telling how fast and to what depth the market may break. The opening of the Yangtze River and the re-establishment of normal conditions may come about in different ways. The Japanese may open it as a friendly gesture toward the United States with an eye on the treaty which expired shortly after the turn of the year. They may also do it to get into friendlier relations with Great Britain. The other possibility is an armistice or peace between Japan and China. Some well-posted people maintain that Japan may withdraw from South China if the United States will recognize its conquest of Manchukuo. This would save everyone's face. Japan could get out of a hard and expensive war which bleeds her to death, and point to her achievements in North China. The withdrawal of English troops from North China, which the daily papers are now reporting, may indicate that some such negotiations are under way. Chiang-Kai-Chek would probably be perfectly happy to let North China go and maintain his sovereignty in South China where he is at home. His government never was very strong in North China. All these are mere possibilities, but some day they may be realized, and in the meantime they are hanging like a sword over the market.

Now for the nearby situation! The amount of wood oil coming through via truck to Indo-China ports is about 2000 tons a month at the present time, and is slightly augmented by a few hundred tons which trickle into Hongkong from nearby provinces. The cost of transportation remains high and is estimated at 10 cents a pound in the interior alone. This cost may be cut almost in half if enough counter-traffic can be secured, which at the present time is not the case. The Chinese government is making frantic efforts to bring out all the wood oil it can, for obvious reasons. In the first place, it must repay the twenty-five million dollar loan granted by the United States government and has obligated itself to bring out of China amounts ranging from 25,000 tons per year at the present time and going up to 60,000 tons by 1942. In the second place, the Chinese government needs additional cash and Chinawood oil is one of its best cash crops. Furthermore, the Chinese government must naturally be worried about the many substitutes that are coming on the market. It is still time to squelch them, but another year or two may put wood oil definitely on the shelf. The Chinese must also look with apprehension at tung-tree groves being planted all over the world, each country trying to become self-sustaining in regard to wood oil.

At the time of this writing the market has eased up due to the release of 5400 tons of American owned wood oil in storage at Hankow since the outbreak of hostilities. If business then remains good, the first four months of 1940 may see another tight situation, especially in view of the position of competitive oils. Dehydrated castor oil has risen sharply in price, and oiticica oil will be practically unobtainable in quantities until about April. This will give wood oil a commanding position for the time being. When the oiticica oil crop begins to move in quantities, however, it is a position that it will be more difficult to maintain.

To a certain extent the market will be influenced by another consequence of the Japanese-American treaty, previously referred to. At the present time perilla oil, which is another competitive oil, is subject to a 4½ cent per pound excise tax but to no duty. After the expiration of the treaty the President may impose any duty he desires, or may even place an embargo on all Japanese merchandise. If perilla oil, therefore, should cease to be an article of commerce or be so high in price that it is practically out of circulation, it will make Chinawood oil that much more valuable.

It is unfortunate that even in full recognition of all the factors influencing the price of wood oil the picture must remain obscure even to the best posted men in the trade on account of the many uncertainties the outcome of which cannot be safely predicted.

COCONUT OIL

By John B. Gordon
Bur. Raw Materials Amer. Oil-Fat Industries

BEFORE it would be possible to give any very useful forecast as to the effect of the European War on the market price of coconut oil, it would be necessary to know, first of all, how long the European war will last, as a war of short duration, say only six months or so, would have little effect upon the copra and coconut oil market. On the other hand, a war of long duration, say two or more years, would result in much higher oils and fats prices, inclusive of coconut oil, and a war of even sixteen months' duration would undoubtedly have a measurable influence on oils and fats values.

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Secondly, it would be necessary to know, before making any concise statements in regard to the future of the coconut oil market, how the European war is going to affect the general commodity price level. There is no reason to suppose that coconut oil and other oils and fats will move independently of general commodity prices, and not until there is a general upward surge in the prices of all commodities need we expect the price of coconut oil to advance greatly.

Under the stimulus of world war conditions coconut oil prices exceeded 17½ cents per pound in 1917. Other oils and fats increased comparably. While with a war of some duration we may expect coconut and other oil and fat prices to increase, we should not find, even with a long war, prices this high in effect again. The chief obstacle to a repetition of such high prices is the credit situation. This should hold the prices of all commodities, inclusive of oils and fats, to much more reasonable proportions during the present war. In 1914-18 and thereafter for a number of years, credit was granted unstintedly to England, France, Italy and other allied nations by the United States. There was really no limitation on the buying power of these European nations, therefore, when they did not have cash, they could obtain unlimited credit.

A further thing to be considered in connection with all commodity prices is the character of the war being waged. If it is to be a war of economic attrition, as appears in its present aspect, rather than a war of pitched battle after pitched battle, then such a war will call for far less expenditure of men and materials than the type of war which was waged from 1914 to 1918.

A war which exhausts economic supplies of materials would be greatly provocative of high commodity prices. But a war which finds the warring nations with so many munitions of war on hand that it is a question of finding storage facilities for these munitions is naturally not going to have the same effect on commodity prices as one in which every munitions factory is working overtime in an effort to keep the rapidly depleting stock piles built up.

A war such as the world war which involved great loss of manpower at the first, with consequent necessity of replacements for those killed or wounded, would have greater effect in increasing commodity prices than a war of the type which is being waged at present, i.e., one of economic attrition. The more men who are taken from their industrial and agricultural occupations, the fewer there are left to continue production. This has its effect on all commodity prices.

Of course, it may well be that we are viewing only a passing phase of the European war. It may readily flare up into a dreadful conflagration equalling the 1914-18 holocaust. But even so, I do not believe that oils and fats and the general run of products of the soil will ascend to the price levels of the World War and post-World War eras. This belief is based not only on the matter of available cash and credit, for after all the nationals of Great Britain and France have investments in American securities, bonds and in other directions of four to five billion dollars, which can be used to provide dollar exchange and with that amount of dollar exchange, they can do a lot of buying. I believe that the mechanization of agriculture which has taken place in large measure since the last World War is going to have a potent effect on keeping the prices of all agricultural prices at a lower level even if the present World War ultimately proves very destructive. Tractors, combines, etc., will play their part in keeping the prices of agricultural products at lower levels than in 1914-18, as larger acreages can now be tilled and harvested with far less manpower than in the World War days.

There is also the important fact that at the start of the present war the world had a surplus of agricultural products on hand. There were two billion bushels more wheat on hand in the world's wheat elevators in September, 1939, than there were in August, 1914. There was a great world surplus of cotton. The prices of the major agricultural crops have a sympathetic effect on the prices of other agricultural crops.

Insofar as the shortage of ocean freight space created higher prices for oils and fats in the last World War, the world, and the United States in particular, is in better shape than in 1914. Not only does this war bid fair to be less destructive of ocean tonnage than the World War but there was more world tonnage in operation at its beginning. The submarine menace is more readily combatted in present day warfare and while the so-called magnetic mine of the Germans has lately been very destructive, the British contend that they have evolved a method of dealing with this agency which, combined with the submarine menace, has not proven anywhere nearly as deadly as did the submarines in the World War period at the height of their effectiveness.

In August, 1914, Lloyd's shipping registry showed 30,836 ships registered with a total tonnage for the world of 49,089,552 tons. In August, 1939, Lloyd's register showed 31,186 ships of all kinds of construction sailing the seas with a total tonnage of 69,439,639 or twenty million tons more than was in existence in 1914.

The United States shipping, which is included in the above, totalled 3,100 ships in 1914 with a tonnage of 5,323,048. In August, 1939, this country had a registry of 3,270 ships with a tonnage of 11,811,874, or more than six million tons in excess of the 1914 figure.

Of tremendous importance is the United States Maritime Commission's building program. The Maritime Commission within the space of the next two and one-half years will have ready for operation one hundred and forty-one of the finest cargo and combination cargo and passenger ships which modern shipbuilding skill can design and construct. Some sixteen or eighteen of these ships have already been placed in operation and an equal number are nearing completion.

I recently had the pleasure of witnessing the trial run of one of these splendid ships, the "Stag

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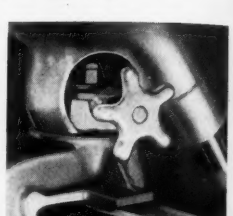

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Hound" of the so-called C-2 type of cargo boat. These and the C-3 cargo boats have splendid accommodations for the carriage of bulk vegetable oil, copra and other oil bearing materials. The C-3's are in fact especially designed in order to handle either liquid or dry cargo in their deep tanks. One has only to inspect one of these splendid new ships which the Maritime Commission is building for American ship operators to feel the deepest pride in our merchant marine.

Since American tonnage is prevented by the Pittman, or neutrality, act from entering submarine and mine-infested areas, this means that our fine new ships must be put into operation on runs to the Philippines, the Dutch East Indies and other Far East areas from whence come coconut, palm and palm kernel oils. Others will run to South American countries from whence comes the bulk of our flaxseed supply and much cottonseed oil. Others can operate to the West Coast of Africa where the large palm oil supplies are of major importance to our soap industry. Still others can operate in the Mediterranean and buy from the Mediterranean countries needed supplies of olive oil foots.

Now, I would not have you believe that because there are conditions which will tend to prevent fats and oils prices from reaching the high altitudes of 1914-18 and the post-war era, that there will not be an increase in coconut oil and other oils and fats prices. If this war lasts any length of time, there will be increases of prices, and important ones.

All commodity prices must increase with a war of fairly long duration and, as general commodity prices rise, you will get increases in all oils and fats prices. You cannot take several million men away from their peace-time occupations and keep them away for a long period of time without disturbing the economic equilibrium of the world. There will be shortages created which our industry will attempt to fill. You cannot take the European dairyman, the swine herder and the general farmer away from his tasks and put a rifle in his hands without creating a shortage of agricultural production and fats and oils in Europe. Then, too, Europeans are too dependent upon imported feedstuffs to keep up a full scale of production of butter, pork and beef products under wartime conditions. These shortages will enable greater exports of American lard to be made. The heavy demand may be a year or more in developing because large supplies have been stored away in anticipation of the outbreak of hostilities, but as the war goes on, the demand will increase. Any unusual demand upon American produced edible fats and oils supplies will in time influence the demand for coconut oil from edible oil users in the United States.

There is only one situation which applies to coconut oil which does not apply equally to all oils and fats, and that is connected with the matter of the excise taxes. Although there are excise taxes on many of the oils, only one of these excise taxes has an extra appendage attached to it, as is the case with the coconut oil excise tax. This extra appendage to the 3 cent tax is the 2 cent differential in favor of coconut oil of Philippine origin. Under ordinary conditions it is not operative in raising prices and serves only to concentrate American buying in the Philippine copra and coconut oil market.

Conceivably, however, the full force of the 5 cent excise tax might be registered on all coconut oil sold in these markets if an unusually heavy demand, created by European war conditions, enters the American market. It would only come if concentrated American buying resulting from war conditions reduced the supply of Philippine copra and coconut oil to the point where the stability of the market would be disturbed by additional heavy purchases.

The threat of this added burden upon American coconut oil consumers, over and above the already prodigiously high 3 cent excise tax, should stimulate every American user of coconut oil to assist in efforts to secure the repeal of the 3 cent excise tax on coconut oil, when employed for non-edible usage.

Janitor Supplies

(*From Page* 25)

being canned. In canning plants where grease may accumulate, it has been found that live steam is effective for cutting grease. This is followed by washing with a weak solution of trisodium phosphate.

Some plants report using no soap powder at all in their canneries, the floors and walls being cleaned with trisodium phosphate, and the equipment with trisodium phosphate and sodium carbonate. Most canneries use sodium metasilicate for stainless steel equipment. The production manager of a metropolitan cannery believed that soap powder and hot water used with hard scrubbing was the best cleanser for floors and walls. And to ensure a "healthy odor," he said, a coal-tar disinfectant is used on the floors and walls once a week. This same canning company uses trisodium phosphate to clean its machines, and a straight tallow chip soap for its utensils. For insect control, most of the canneries visited preferred pyrethrum powders and sprays.

Like the meat packing, bottling and bakery industries, the larger plants in the canning industry set up their own specifications for janitor supplies. The smaller canneries, however, are almost wholly dependent upon their suppliers for advice on cleaning problems. When buying soaps and cleansers, a representative from a small company said, he leaves it entirely up to those supplying him. He mentioned that he is no cleaning expert. All he does, he said, is to present his needs to the companies with which he has been dealing for years, and they furnish him with suitable products.

Cleaning in the canning industry, although important, is not as great a problem as would at first be imagined. It is, for the great part, a case of keeping floors, walls and equipment free from accumulated foods. The seriousness of the problem depends upon the type of food being canned, for some foods are more difficult to remove than are others.

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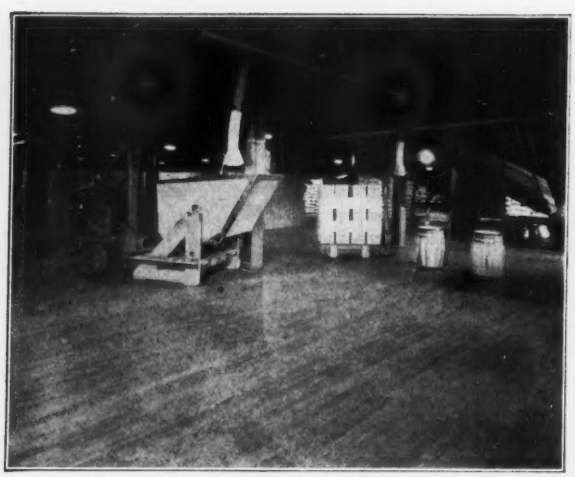

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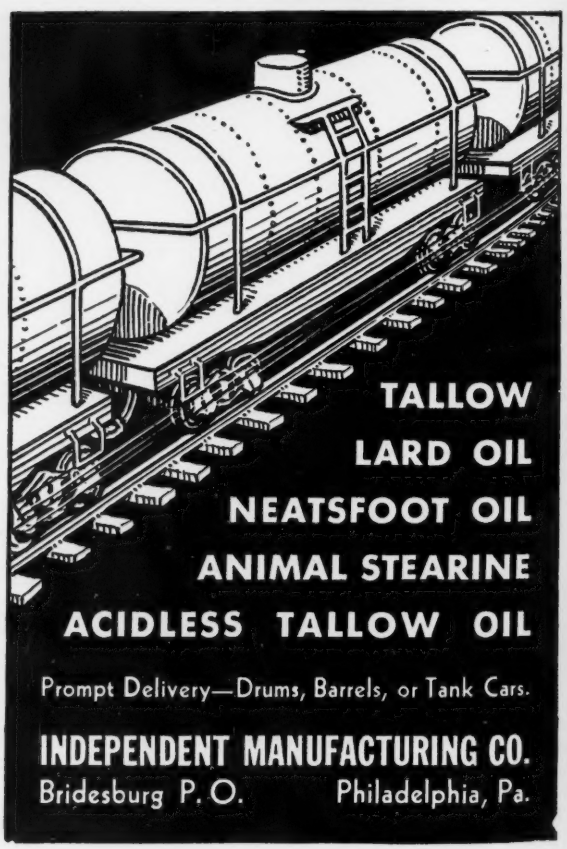

News.....

New Deodorant Concern

Sherco Products Corp., Syracuse, has recently been formed to manufacture a new garbage deodorant, formulated by Dr. Lawrence W. Sherwin, president of the new company. Seventy-five workers are employed at the plant which is located at Oneida and West Adams Streets, and twelve salesman are employed to market the new deodorant. Articles of incorporation, providing for $25,000 capital stock, have been filed.

Ask Rodenticide Standards

Amendment of the Insecticide Act of 1910 to include rodenticides and to require a declaration of net weight or volume on labels for insecticides, fungicides and rodenticides has been asked by Secretary of Agriculture Wallace in a draft of a proposed bill which he has submitted to Congress. The bill was referred to the House Committee on Interstate and Foreign Commerce.

Deny "Black Witch" Mark

Ford Hopkins Co., Chicago, has recently been denied the use of "Black Witch" as a trade mark for insecticides, in view of the opposition of Black Flag Co., Baltimore, who held the name to be confusingly similar to their own registered trade mark "Black Flag," also used for insecticides.

Form New Insecticide Co.

A new company known as the Insecticide Corporation of America has recently been organized in Medina, N. Y., to manufacture insecticides, fungicides, seed treating materials and fertilizers. Dean G. Strickler, formerly sales manager of Miller Chemical & Fertilizer Corp., Baltimore, is general manager of the new concern and is associated in its management with Daniel Connolly, formerly sales manager of Ansbacher-Siegle Corp., New York. The new company contemplates acquisition of the property and buildings of the former New York Insecticide Co. in Medina, which was leased during the past year to the Miller company. Included on the board of managers of the new company are E. B. Pinkerton, vice-president, Miller Chemical & Fertilizer Co., and M. C. Morton, vice-president, Central Chemical Co., Hagerstown, Md.

Issue Bulletin on Waxes

Rhode Island Agricultural Experiment Station, Kingston, R. I., has issued a bulletin dealing with "Wood Finishes" which should prove valuable as sales promotion literature for manufacturers of floor waxes. The document, prepared by the station's home economics department, with Blanche M. Kuschke, as author, is intended to guide farm housewives in finishing wooden floors. Sections of the report deal with methods and materials for finishing new floors or re-finishing old ones, with one section devoted to Water-emulsion Waxes. Reference is made to the "disappointment" many home makers have experienced with floor wax. Reasons for failure of the wax to give satisfaction are suggested in some detail and the report then outlines a method by which "water waxes may be tested in the home" to insure identification of waxes worth buying. The document is designated as "Miscellaneous Publication No. 3—Wood Finishes."

Granddaughter to F. A. Hoyt

Fred. A. Hoyt, president, Frederick Disinfectant Co., Atlanta, Ga., is being congratulated on the birth of a granddaughter, Frances H. Shropshire, Jr., at Emory Hospital, December 29. Mr. Hoyt is a former president of the National Association of Insecticide and Disinfectant Manufacturers.

Hy-Glo Products Co. Moves

Hy-Glo Products Co. has recently moved its factory to Owosso, Mich., from which all shipments will now be made. The company's manufacturing activities were formerly located in Detroit.

To Do Research on Insects

Dr. W. E. Dove, who since 1935 has been associated with cooperative control programs carried on by the U. S. Bureau of Entomol-

Voted the two handsomest men in the perfuming materials business, J. B. Magnus of Magnus, Mabee & Reynard, Inc., and M. Lemmermeyer of Aromatic Products, Inc., at the recent insecticide and disinfectant meeting in Washington. Photograph by A. L. van Ameringen of van Ameringen-Haebler, Inc., who also acted as chief and sole judge in the contest. Trophies to be awarded at the N.A.I.D.M. meeting next June.

ogy and Plant Quarantine, is returning to research in the Division of Insects Affecting Man and Animals, according to a recent announcement by Dr. Lee A. Strong, chief of the Bureau. Dr. Claude Wakeland, who has been active in plant pest control operations, is being placed in immediate field charge of the Bureau's grasshopper control projects.

—— ♦ ——

Disinfectants

Disinfectant and cleansing compositions are prepared by mixing one or more compounds of formula AmRCONHR', in which Am is a quaternary ammonium group containing any desired anion, R is a hydrocarbon residue containing less than 8 carbon atoms, and R' is a lipophilic hydrocarbon residue containing at least 6 carbon atoms, with one or more of the following: Soaps, soap substitutes, alkaline-reacting cleansing agents or alkaline-reacting salts. Disinfectants and anticorrosive agents such as aromatic amines, organic liquid diluents such as alcohols, and solid diluents such as inorganic salts may also be added. The ingerdients are mixed without added water but the mixtures are used in aqueous solution. An example is a mixture of sodium metasilicate, trisodium phosphate and *alpha*-dimethyl - amino - *N* - dodecylacetamide methochloride. This is used in dilute aqueous solution. Deutsche Hydrierwerke A.-G. British Patent No. 505,429.

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Penn. Refining New Plant

Pennsylvania Refining Co., Butler, Pa., has opened a branch plant at Jersey City, N. J., with L. L. Long as manager. In its bulk storage department, the plant will handle the company's complete line of insecticide bases, greases, naphthas, petrolatum, solvents, etc.

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Durham Chemical Moves

Durham Chemical Corp., insecticides, New York, recently moved to new and larger quarters at 222 East 23rd Street.

Condemns Insecticide Fees

Condemning high registration fees for insecticides, particularly in the States of Florida and California, and hinting that there is likely to be retaliation from industrial states such as Pennsylvania against the citrus fruit industries of these states, H. W. Baldwin, president of the Baldwin Laboratories, Inc., Saegertown, Pa., has the following to say in a letter to *Soap & Sanitary Chemicals:*

"I do not know the number of insecticide manufacturers in these United States who are doing business both in California and in Florida. However, I do know that those who do business in these two states are aware of the taxes in the form of registration fees and licenses, etc. which are imposed upon them.

These registration fees are nothing short of trade barriers, and our industry is not the only one affected by them. While my place of business is within the State of Pennsylvania where we have a nominal registration, which in itself I am against, I want to go on record as against all such trade barriers, whether they strike the business in which I am concerned or any other type of business.

If various states persist in building up such barriers and burdening manufacturers with taxes, registration fees, etc., they cannot help but bring down upon their heads retaliating legislation. Let us take for instance the States of California and Florida. The products of these two states mainly, citrus fruits, move and are sold freely in the State of Pennsylvania without taxation and without trade barriers. What is there to prevent a number of manufacturers in the State of Pennsylvania from going to their respective legislators and urge them to introduce such legislation that would impose reciprocal taxes upon the products of these states?

I have before me a letter from one of the legislators of Pennsylvania, requesting that I give him information regarding the taxes imposed by the States of Florida and California upon Pennsylvania manufacturers in our industry. I know that this same legislator is investigating such other industries that are having taxes imposed upon them with the idea in view of putting a bill before our House of Representatives to protect Pennsylvania manufacturers against trade barriers of other states.

Supposing a law was enacted in Pennsylvania, stating that any citrus fruit grower shipping fruits into Pennsylvania must pay a license fee anywhere from $50 to $150 a year. What a burden this would place upon the citrus fruit growers of California, Floria, Texas and others. Frankly, I am against such acts. However, we need but look at the horizon and we can see them coming. I am of the opinion that such states that now impose unreasonable laws and license fees should take heed and realize what they are about to bring upon themselves.

Insofar as our industry is concerned, all regulatory laws could be and have been successfully handled by the Federal Food and Drug Administration. It is a known fact that the states who impose such registration and license fees, etc., use this money to police and enforce their acts in their respective states and it provides money for unnecessary offices within the state which imposes the laws upon the foreign manufacturers.

The Insecticide Act of 1910 fully covers and provides regulatory methods in the sale of our merchandise interstate. I know that it costs our Government much money to enforce and to police these United States. However, it must be born in mind that the Federal Government makes no charge, nor does it impose registration and license fees upon any manufacturer. It is my belief that, since policing is necessary, instead of forty-eight states setting up laws and demanding fees, that the Federal Government should impose a small nominal fee on all manufacturers, who would then come directly under the jurisdiction of the Federal Government. This method would not only provide ample policing, but would save the manufacturers thousands of dollars annually and would prevent ill-will between states.

Our industry approaches the point of having to have individual packages for each state. Among larger manufacturers who are doing a national business and who operate a large sales force, it has been necessary to set up separate departments to handle state regulatory affairs. I am of the opinion that it is time our industry took a firm stand against the enactment of laws which raise trade barriers, and, further I believe that we should solicit the help of other trades and fight for all we're worth."

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Thos. Houchin Corp. Moves

Thomas W. Houchin Corp., insect powder blowers, Jersey City, N. J., has recently moved to new and larger quarters at 87-101 Ferry Street.

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Soilicide Marketing Account

Soilicide Laboratories, insecticide specialties, Upper Montclair, N. J., recently appointed Federated Sales Service, Boston, as marketing counsel.

FDA To Tighten Regulations on Insecticide-Disinfectant Labeling

PYRETHRUM powder and insecticides containing it are to be subject to more drastic labeling requirements after September 1, 1940, according to the provisions of a notice issued January 25 by W. G. Campbell, chief, U. S. Food & Drug Administration, Washington, D. C. All packages must be labeled to show the percentage of pyrethrins present, the trade being given until September 1 to make the necessary adjustments in packages and labels. The new regulation will not apply to liquid fly sprays and other petroleum base insecticides, according to advices from Washington.

A proposal for a change in labeling regulations for disinfectants has also been made by the F. D. A. in a request to Congress for an amendment to the Insecticide Act of 1910 to require a statement of the phenol coefficient on the label of every disinfectant to which a phenol coefficient is applicable. There is no indication as yet, of course, whether or not Congress will grant the request for such an amendment, although recent legislative trends point to a sympathetic consideration for the request.

The proposed amendment also includes rodenticides under the law, new standards for arsenicals, and increase in penalties for violation.

The notice affecting insecticide labeling, is as follows:

The insecticide act of 1910 provides (section 8) that if an insecticide consists in part of an inert substance (or substances) which in itself does not prevent, destroy, repel, or mitigate insects, its label must bear a plain and correct statement of the names and percentage amounts of each and every inert ingredient or, in lieu thereof, a plain and correct statement of the names and percentage amounts of each and every active ingredient together with the total percentage of the inert ingredients.

In the case of plant materials the actual constituent, or constituents, of the plant material that is toxic to insects is held to be the active ingredient, and this provision of the law has, in general, been applied to such products in the past. One exception has been pyrethrum powder or insect powder, the reason being that until comparatively recently the ingredients to which the powder owes its activity as an insecticide had not been identified, and after their identification a considerable time elapsed before satisfactory methods for their quantitative determination had been developed. The active ingredients have been found to be two closely related esters, which have been designated pyrethrin I and pyrethrin II, and methods have been worked out for their determination.

In view of these developments the administration is now in a position to put into effect the provision pertaining to a statement of ingredients as outlined in section 8 of the insecticide act of 1910.

Since pyrethrin I and pyrethrin II are so closely related chemically, it will not be required at present that the percentage of each be stated separately. The following form of statement, which should appear prominently on the front or main panel of the label, will be accepted as in compliance with the law.

Active Ingredients
Pyrethrins — Percent
Inert Ingredients — Percent
Total, 100 Percent

The correct values are to be inserted in the blank spaces indicated.

The methods used by the Food and Drug Administration for the determination of the pyrethrins in pyrethrum powder are the Holaday modification of the mercury reduction method for pyrethrin I and a modification of the Seil Method for pyrethrin II.* These methods have been adopted by the Association of Official Agricultural Chemists and will appear in "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," the fifth edition, of which is now in preparation.

The same principles of labeling will apply to insecticides containing pyrethrum powder or pyrethrins as to pyrethrum powder itself.

In order that the trade may be given sufficient time to bring about a compliance with this notice, its active enforcement will not be put into effect until September 1, 1940.

*Both methods appear in the 1939 edition of the *Soap and Sanitary Chemicals Blue Book* and will also appear in the 1940 edition.

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Insect Spray Ruling

Dr. C. C. McDonnell, Chief, Insecticide Division, Food & Drug Administration, U. S. Department of Agriculture, in a recent response to a manufacturer regarding the labeling of an insect spray, stated that any insecticide product if containing more than one active ingredient is considered misbranded if named after a single constituent. The question submitted to Dr. McDonnell by the National Association of Insecticide & Disinfectant Manufacturers was:

"If a fly spray contains, let us say, as low a percentage as 0.02 per cent pyrethrins, can it still be called a "pyrethrum spray" in spite of the other toxic ingredients which, in this case would represent the greater proportion of killing agents?"

The reply of Dr. McDonnell follows: "A fly spray, containing (say) 0.02 per cent pyrethrins along with other killing agents, would be misbranded under the Insecticide Act of 1910 if labeled or designated "A Pyrethrum Spray." Such a designation would give the impression that the insecticidal properties of the product were due entirely to pyrethrum. It is a general rule that an insecticide containing more than one active insecticidal agent is considered misbranded if it is named after a single ingredient."

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Metasilicate on Aluminum

Sodium metasilicate does not corrode aluminum, according to L. Carlton Mertz of the L. Carlton Mertz Co., Chicago, who writes to correct an error which appeared in the January issue of *Soap & Sanitary Chemicals*. He states:

"An error is noted in the article on "Janitor Supplies for Foodstuff Plants." The statement is made that "Aluminum is attacked markedly by all alkalis, while brass and bronze are tarnished. To counteract these corrosive problems, many plants are using considerable stainless steel." Aluminum is scarcely attacked by sodium metasilicate. There are private brand cleaners which are even superior to metasilicate in respect to corrosion of aluminum. We make one which can be used at any concentration desired, at boiling temperature, for indefinite periods of time on highly polished aluminum.

Rotenone Products

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Household, Horticultural and Agricultural Insecticides

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- Sassafrassy Scrub Soap
- Soft Soap, U.S.P.
- Auto Soap
- Saddle Soap

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- Soda and Acid Recharges
- Drip Machine Fluid
- Toilet Bowl Cleaner
- Drain Pipe Cleaner
- Roach Powder
- Wax Base Cleaner
- Coal Tar Animal Dip
- Powdered Rosin

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WATER EMULSION WAX . . . lustrous, minimum slip, long wearing, waterproof.

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Chemical Division

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Bernuth Heads Chipman Chem.

Oscar M. Bernuth has been elected president of the Chipman Chemical Co., Bound Brook, N. J., succeeding Ralph N. Chipman who recently resigned after founding the company twenty-two years ago. Mr. Bernuth is also the head of Bernuth, Lembcke Co., New York, of which Chipman Chemical is a subsidiary. Charles B. Bernuth has been named assistant to the president, W. H. Moyer, formerly secretary and treasurer, has been elected a vice-president and treasurer. B. P. Webster continues as vice-president, and W. F. Hall remains as sales manager. The company has announced the purchase of the entire business and assets of the Berako Co., manufacturer of rotenone products, Bound Brook.

Join 100,000 Mile Club

G. A. Buerki, West Disinfecting Co., Milwaukee, and F. B. Castator, manager of the Pacific Coast Division, Bulk Produce Sales Department, Procter & Gamble Distribution Co., Los Angeles, have recently been elected to the 100,000 Mile Club, an organization composed of those persons who have flown 100,000 miles or more by commercial airliner.

Joins Bureau of Entomology

J. C. Holton, formerly commissioner of agriculture for the state of Mississippi, has recently been appointed to a position in charge of cooperative field relations in the Bureau of Entomology and Plant Quarantine, United States Department of Agriculture. His headquarters are in Denver, Colo.

Breuer Disclaims "Adolph"

In the January issue of *Soap & Sanitary Chemicals*, the name of Adam A. Breuer, president of the Breuer Electric Manufacturing Co., Chicago, was by error published as "Adolph" Breuer. Mr. Breuer thereupon communicated with the editor as follows:

"Whether you are deliberately trying to insult me or not, I do not know, but I do desire to put it on the record here and now that my first name is Adam, and not Adolph. If you don't know who Adam was, I will enlighten you. He was the first man,—and I am named after him. I also want to make it clear that my middle name is not "Hitler," and give you fair warning that if you make a second mistake (?) along this line in your next issue, I will descend upon your neck with a flock of lawyers."

New Water Emulsion Wax

Nielco Laboratories, Detroit, have recently applied for a patent on a new water emulsion floor wax. The product is said to be self polishing, water resistant and slip-proof. It is also said that it does not contain any Latex, either natural or synthetic.

New Clifton Folders

Clifton Chemical Co., New York, has just issued five new folders describing the Clifton line of liquid hand soaps, liquid soap dispensers, disinfectants, floor preparations and oil soaps.

Shellac Information Bureau

The American Bleached Shellac Manufacturers Association has announced the formation of the Shellac Information Bureau, which will act as an authoritative source of information on shellac and its industrial and domestic uses. Edward Hicks has been appointed director of the new bureau with offices at 70 Pine Street, New York.

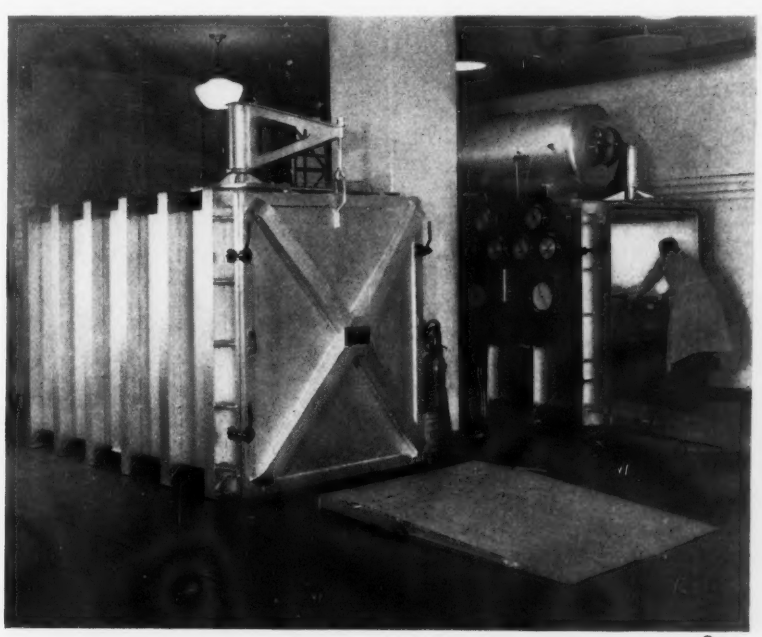
U. S. Pyrethrum Imports

Imports of pyrethrum into the United States during the first eleven months of 1939 totalled 11,503,375 lbs. valued at $2,660,249. This compares with total imports of 12,642,372 lbs. valued at $2,168,596 for the corresponding period of 1938.

Wilbur F. Smith Dies

Wilbur F. Smith of The Alderman Co., Pasadena, a well known figure in the pest control industry on the Pacific Coast, died January 14th. Mr. Smith was a regional vice-president of the National Pest Control Association and a member of the California Structural Pest Control Board.

Every document going into the National Archives Building at Washington, D. C., first passes through one of these two fumigating tanks to insure elimination of insects and fungi. An exposure of three hours to a mixture of ethylene oxide and carbon dioxide is said to kill insects in any stage of development as well as mold spores. A. E. Kimberley heads division in charge.



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NEW SAVINGS

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—the all-purpose, no-rubbing liquid wax.

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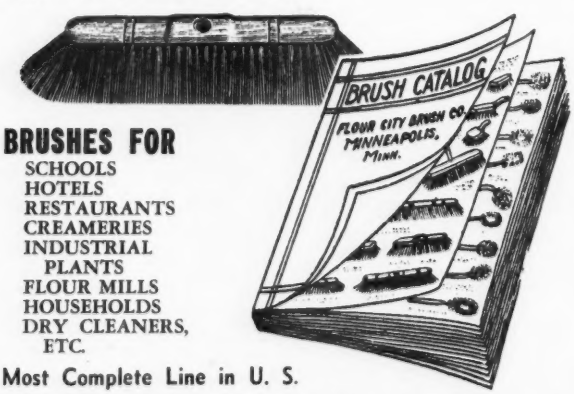
1940 BRUSH CATALOG!

Our new 1940 brush catalog is now ready for distribution. We manufacture a very complete line of floor brushes and miscellaneous items for the janitor trade. If you are calling on this trade, and are interested in selling brushes, we have a good proposition to offer you.



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Most Complete Line in U. S.

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HERE IS YOUR COMPLETE LINE OF

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CHEMICAL COMPOUNDS
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INSECTICIDES
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POLISHES
SOAPS
WAXES
OILS
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For the trade only; in bulk or small packages under private brand.

COLE CHEMICAL CORP.
Long Island City New York

Appoints NAIDM Committees

W. J. Zick of Stanco, Inc., New York, president of the National Association of Insecticide & Disinfectant Manufacturers, has announced the following committee appointments for 1940:

INSECTICIDE COMMITTEES

General Chairman: John N. Curlett, McCormick & Co.

Insecticide Scientific Committee

Chairman: A. E. Badertscher, McCormick & Co.

W. A. Simanton, Gulf Research & Development Co.; Alfred Weed, John Powell & Co.; Franklin C. Nelson, Stanco, Inc.; A. J. Grady, Sinclair Refining Co.; C. R. Cleveland, Standard Oil Co. of Indiana; D. F. Murphy, Rohm & Haas Co.; R. L. Speer, Shell Oil Co.; L. D. Benedict, Midway Chemical Co.; R. Wotherspoon, Derris, Inc.; M. Doner, J. R. Watkins Co.

Associates: Dr. Lon A. Hawkins, U. S. Department of Agriculture; Dr. F. L. Campbell, Ohio State University.

Insecticide Marketing Committee

Chairman: F. O. Huckins, Sinclair Refining Co.

W. J. Wagner, Tanglefoot Co.; Walter Silbersack, A. S. Boyle Co.; Robert C. White, Jr., Robert C. White Co.; R. L. Williams, Shell Oil Co.; A. W. Morrison, Socony-Vacuum Oil Co.

DISINFECTANT COMMITTEES

General Chairman: Henry A. Nelson, Chemical Supply Co.

Disinfectant Scientific Committee

Chairman: E. G. Klarmann, Lehn & Fink Products Co.

M. L. Griffin, Shell Development Co.; W. A. Hadfield, General Laboratories; B. G. Philbrick, Skinner & Sherman, Inc.; G. F. Reddish, Lambert Pharmacal Co.; J. C. Varley, Baird & McGuire, Inc.; Friar Thompson, Hercules Powder Co.; C. L. Weirich, C. B. Dolge Co.

Disinfectant Marketing Committee

Chairman: W. B. Eddy, Rochester Germicide Co.

J. W. Schiffer, Federal Sanitation Co.; John A. Marcuse, West Disinfecting Co.; H. W. Hamilton, White Tar Co.; Peter Dougan, Merck & Co.

SPECIAL COMMITTEE on Revision Coal Tar and Cresylic Disinfectant Specification Standards

Chairman: E. G. Klarmann, Lehn & Fink Products Co.

G. F. Reddish, Lambert Pharmacal Co.; J. C. Varley, Baird & McGuire, Inc.; J. H. Carpenter, Koppers Co.; W. B. Eddy, Rochester Germicide Co.; M. L. Griffin, Shell Development Co.; Leon W. Miller, The Barrett Co.; B. G. Philbrick, Skinner & Sherman.

SANITARY SPECIALTIES COMMITTEES

General Chairman: J. L. Brenn, Huntington Laboratories, Inc.

Sanitary Specialties Scientific Committee

Chairman: Melvin Fuld, Fuld Bros.

R. B. Trusler, Davies-Young Soap Co.; C. E. Smith, Socony-Vacuum Oil Co.; Dudley Bachrach, Clifton Chemical Co.; Leo Lowenstein, D. A. Collins Mfg. Co.

Sanitary Specialties Marketing Committee

Chairman: Leo Lowenstein, D. B. Collins Mfg. Co.

Guy P. Robbins, Geo. B. Robbins Disinfectant Co.; Simon Selig, The Selig Co.; J. H. Bender, Clarkson Chemical Co.

GENERAL COMMITTEES

Associate Members Committee

Chairman: Louis A. Trevisan, American Can Co.

F. I. L. Lawrence, Atlantic Refining Co.; Paul Loris, H. D. Hudson Mfg. Co.

Industrial Sanitation Committee

Chairman: Jack C. Varley, Baird & McGuire, Inc.

H. W. Baldwin, Baldwin Laboratories, Inc.; Ellis Davidson, Ellis Davidson Co.

Labeling Committee

Chairman: E. G. Thomssen, J. R. Watkins Co.

John H. Wright, New York; Eric Kunz, Givaudan-Delawanna, Inc.; **Consultant:** Henry C. Fuller, Washington, D. C.

Legislative Committee

Chairman: C. L. Fardwell, McCormick & Co.

H. W. Hamilton, White Tar Co.; Earl Ament, Dethol Mfg. Co.; **Associate:** Henry C. Fuller, Washington, D. C.

Membership Committee

Chairman: Henry A. Nelson, Chemical Supply Co.

O. G. Jakob, Continental Can Co.; M. J. Flanagan, Federal Varnish Co.; Don E. Clark, Dr. Hess & Clark, Inc.

Publicity Committee

Chairman: H. W. Baldwin, Baldwin Laboratories, Inc.

M. Lemmermeyer, Aromatic Products, Inc.; Leo Lowenstein, D. A. Collins Mfg. Co.

Research Program Committee

Chairman: W. B. Eddy, Rochester Germicide Co.

E. G. Thomssen, J. R. Watkins Co.; C. L. Weirich, C. B. Dolge Co.; John A. Marcuse, West Disinfecting Co.; O. F. Hedenburg, Mellon Institute.

Specifications and Purchases Committee

Chairman: Gordon M. Baird, Baird & McGuire, Inc.

R. H. Young, Davies-Young Soap Co.; Cady S. Corl, Allaire Woodward Co.; R. O. Cowin, Standard Oil Co. (Ohio).

Convention Committee—1940 (Mid-Year)

General Chairman: N. J. Gothard, Sinclair Refining Co.

Program

Chairman: Preston B. Heller, B. Heller & Co.

Fred Hogg, Hercules Powder Co.; L. D. Benedict, Midway Chemical Co.

Arrangements

Chairman: J. L. Brenn, Huntington Laboratories, Inc.

John Powell, John Powell & Co.; Ira P. MacNair, MacNair-Dorland Co.

Entertainment

Chairman: Adam A. Breuer, Breuer Electric Mfg. Co.

Henry J. Brownstein, Hysan Products Co.; Talmadge B. Tribble, Magnus, Mabee & Reynard.

Sports

Chairman: Charles Furst, Furst & McNess Co.

GOLF: Harold Meyer, S. B. Penick Co.; A. L. van Ameringen, van Ameringen-Haebler, Inc.

BASEBALL: Friar Thompson, Hercules Powder Co.; H. R. King, R. J. Prentiss & Co.

HORSE SHOE PITCHING: Wallace Thomas, Gulf Oil Co.; Charles Opitz, John Opitz, Inc.

Malcolm C. Sargent Dies

Malcolm C. Sargent, for the past five years district sales engineer in New England for Sprout, Waldron & Co., Muncy, Pa., died January 9, at the Quincy Hospital, Quincy, Mass. He was 47 years old, and prior to joining Sprout, Waldron & Co., was, for several years, a partner in the firm of Bellamy, Robie and Sargent, manufacturers and mill supply dealers, Cambridge, Mass.

Who Makes "Abrazorub"?

A reader of SOAP is interested in locating the name of the manufacturer of the "Abrazorub" Sanitary Scrub Brush. Information on this item will be appreciated.

A New Departure In Crutcher Performance

The HUBER ELECTRO PERFECTION CRUTCHER is now available in a new model,—with four forward and reverse speeds. The flexibility in operating technique afforded by this wider choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2400 and 3200 pounds.

HUBER MACHINE CO.

"Builders of Good Soap Machinery for the Past 45 Years"

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For Better Bleaching of

EXTRAORDINARILY high adsorptive efficiency, overall economy and immediate availability make SPECIAL FILTROL increasingly necessary to linseed oil refiners.

FILTROL 37F

FILTERING MATERIAL FOR DECOLORIZING AND PURIFYING

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We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
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It will pay you to send for testing samples.

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IT IS NEW TO THE TRADE!

SCIENTIFICALLY MADE, PRE-TESTED

FLOOR WAX

PACKED IN PINTS, QUARTS, GALLONS AND DRUMS

for DOMESTIC HOME USAGE

TO BE SOLD TO THE JOBBER TRADE

IN PRIVATE BRANDS OR OUR BRAND

Packed in cans with labels furnished or in bulk for repacking.

Priced right to meet competition.

Demonstrate This Floor Wax in Your Own Home

Observe the following features that sets it apart from ordinary domestic floor wax.

IT HAS A FOOL-PROOF APPLICATION
DRIES VERY BRIGHT
CAN BE WASHED OFF EASILY
IT IS NON-SCRATCHING

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WE ALSO MANUFACTURE

Liquid Floor Soaps
Rug Shampoo
Metal Polish
Disinfectants
Gym-Finish
Paste Wax

Purdue University Scene of 4th Pest Control Conference

THE fourth annual Purdue Pest Control Operators Conference was held January 15-19 at Purdue University, Lafayette, Ind., in cooperation with the National Pest Control Association. Almost 150 persons from 22 states and Canada attended the conference and heard discussions on practical methods of control and sources of infestation of insects. The opening session included general discussion of insects, their structures and life habits and related these to control operations. Succeeding sessions treated particular problems in control of rats, cockroaches, moths, carpet beetles, termites, ticks, ants and other insect pests. New developments in insecticides received close attention as did a presentation of recent investigations into mechanical devices for the pest control operator.

One session was devoted to fumigation and another to rat control, the papers and discussions centering on relations of these matters to the home, industry and the community. A termite field trip took place on Tuesday afternoon and was followed that evening by the showing of termite pictures. On Wednesday evening a long session was devoted to the termite problems encountered on the field trip. Purdue University's large entomology collections were used in a three-hour session devoted to classification and identification of insects, especially those occurring in the home. Identification of woods was another program feature which was illustrated by material available in the university's collection.

The conference closed Thursday evening with a banquet presided over by J. J. Davis, chief in entomology, Purdue University. Dr. Edward C. Elliott, president of the University, was toastmaster, and Dr. C. L. Metcalf, head of the department of entomology of the University of Illinois, was the principal speaker, his address being "An Insect Looks at the Pest Control Operator." Other speakers were Walter S. McCloud, president of the National Pest Control Association, William O. Buettner, secretary of the association, and Leonard Goldman of Providence, R. I.

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Pacific Coast PCO Conference

The third Pacific Coast Pest Control Operators Conference will be held at the University of California, Berkeley, Calif., on February 22, 23 and 24, with Professor William B. Herms, head of the University's department of entomology, serving as conference director. Highlights of the three day meeting will be talks and papers presented on the following subjects: "New Developments in Pest Control" by G. F. MacLeod; "Pest Control Literature" by A. E. Michelbacher; "Warehouse Fumigation" by D. B. Mackie, chief, Bureau of Entomology and Plant Quarantine, State Dept. of Agriculture; and "Safety Measures, Precautions" by Dr. J. C. Geiger, health officer, City and County of San Francisco. A. J. Cox, chief, division of chemistry, State Dept. of Agriculture, will speak on "Regulatory Measures." and Walter S. Mangold, sanitarian, Student Health Service, University of California, will present a paper on "Rat Control." Details on registration may be obtained from George A. Rade, general chairman, 1219 Oxford St., Berkeley, from J. K. Houghman, Post Office Box 364, Visalia, Calif., or through the secretary, Miss Murielle Sea, 1178 Oxford St., Berkeley, Calif.

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Miller Heads Calif. PCO's

J. M. Miller of J. M. Miller Pest Control System, Hollywood, was elected president of the California Pest Control Association at the sixth annual convention of this group held at the Roosevelt Hotel, Hollywood, January 15-17. E. G. Mills of Pacific Exterminating Co., San Francisco, was named vice-president and Robert E. Hackley, Palo Alto Pest Control Co., Palo Alto, secretary-treasurer. Directors for the coming year are L. W. Christensen, L. W. Christensen Termite Control Co., C. P. Cain, J. M. Cain Co., V. H. Montgomery, Mont-

For the fourth year in succession pest control operators held a highly successful conference at Purdue Univ., Lafayette, Ind., Jan. 15-19.

SOAP

DISINFECTANTS
PINE OIL COAL TAR
CRESOL
COMPOUNDS

SOAPS
LIQUID
POTASH OIL
ALCOHOL (U.S.P.)

CLEAR BASE
POWDERED

FLOOR
WAXES CLEANERS
SCRUBS
SOAP —— POWDERS

PECK'S PRODUCTS COMPANY

KANSAS CITY ST. LOUIS, MO. NEW YORK

Valencia Pumice

Reg. U.S. Pat. Off.

Is THE PUMICE for

Powder
Paste
Bar

Mechanic type soap where an abrasive is desired.

Write for samples and 12 page booklet of information

BARNSDALL TRIPOLI CORPORATION
PUMICE DIVISION
(Subsidiary Barnsdall Oil Co).
SENECA, MISSOURI, U. S. A.

DAN-DEE WAX *for the trade!*

You can sell Dan-Dee Floor Wax with definite assurance that it meets approved specifications for proper floor protection.

Water Proof
Tougher, Heavier Body yet Pliable
Higher Gloss

PRIVATE LABELS SUPPLIED

Specially Priced for Drums, ½ Drums and 5 Gal. Cans

FULL DETAILS—GENEROUS SAMPLES AVAILABLE UPON REQUEST.

TWIN CITY SHELLAC CO., Inc.
340 FLUSHING AVENUE BROOKLYN, N. Y.
Also Manufacturers of Liquid and Paste Wax

SOAP BASES — Cocoanut, Green and Corn
DISINFECTANTS — Cresol, Coaltar and Pine
FLOOR PRODUCTS — Rubless, Paste and Liquid Waxes

Write for Samples and Attractive Prices

HOCKWALD CHEMICAL COMPANY
135 Mississippi Street San Francisco, Calif.
Largest Pacific Coast Mfr. of Potash Soaps and Sanitary Products

gomery Pest Control Co., W. J. Burgin, W. J. Burgin & Co., George A. Rader, Termite Inspection Bureau, C. W. Mollard, Santa Barbara Pest Control Co. and E. T. Auger.

There were over 150 present at the three-day session which was presided over by the retiring president, C. W. Mollard. Among the addresses was one on advertising by Hugo Scheiber, Hugo Scheiber, Inc., Los Angeles, advertising agency representing the National Pest Control Association. He recommended cooperative advertising for the exterminating industry and outlined the steps that the Advertising Institute of the association has already taken to provide members of the industry with attractive mailing pieces at minimum cost. Rather than spend its entire advertising appropriation in listings and directories, he urged the average firm to try direct mail, newspaper advertising or radio instead. Emphasis was placed on the idea that the exterminator should go out and seek new markets for his services rather than simply wait for potential customers to call him as the result of listings.

Termites and termite control occupied an important place on the program. A motion picture on termite control was presented by H. J. Davies and as a second part of this program the San Diego group gave a playlet "A Complete Termite Job." An open forum on general household pests was held at one of the sessions following a lecture on the same subject by Dr. R. M. Bohart of the University of California.

Announcement was made that the 1941 state convention will be held on the Monterey Penninsula. The date will be announced later.

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New Orbis Perfume Laboratory

Orbis Products Corp., New York, has recently announced the completion of its perfume research laboratory located at 215 Pearl Street. William H. Barlow, who joined the Orbis company last year, is director of the laboratory and will be in complete charge of all perfume research and compounding.

Indiana P. C. O. Organize

Meeting in special session at the recent fourth annual Purdue Pest Control Operators Conference, Indiana pest control operators organized a state association with the following slate of officers: J. R. Franklin, president; E. E. Edwards, vice-president, and C. O. Partlow, secretary-treasurer. Directors for the coming year are Maurice Baile, Bert Lewis, and J. E. Nicholas.

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North West PCO Elects Harmer

H. N. Harmer, Rose Exterminator Co., Minneapolis, was elected president of the North West Pest Control Association at its recent annual meeting. A. Vanness, Benson & Vanness Co., Minneapolis, was elected vice-president; H. V. Smith, Smith Exterminating Co., St. Paul, treasurer, and J. A. Athelstan, Althelstan Exterminating and Fumigating Co., Minneapolis, was reelected secretary.

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Arthur E. Ury Transferred

Arthur E. Ury, who has been a member of the advertising staff of Owens-Illinois Glass Co. for several years, has been transferred to the company's merchandising division. He will serve as assistant to Howard A. Trumbull, merchandising manager. Walter D. Plummer will take over Mr. Ury's duties.

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Southern P. C. O. Conference

The second annual Southern Pest Control Operators Conference was held at Louisiana State University, University, La., January 29-31, sponsored by the University in cooperation with the National Pest Control Association. Talks and discussions centered around methods of pest control and life and habits of insects. Several talks were given which traced the development of pest control work in Southern states. J. H. Roberts, Louisiana University, introduced the Monday afternoon session with the subject "Morphology of Insects" and was followed by W. H. Gates, also of the University who spoke on "Biology of Rats and Mice" and "Control of Rats and Mice." In the evening, a motion picture on termites was shown and a symposium on the same subject was also held.

At the Tuesday morning session, R. M. Melampy discussed the chemical aspect of pest control work choosing as his subject "How Insecticides Kill." Talks were also given on fumigants, botanical poisons, botanical insecticides in household insect control and on inorganic chemicals, mineral oils, coal tar oils and miscellaneous poisons. Cockroaches, clothes moths, carpet beetles, mothproofing, fleas, ticks, etc., all entered into the discussions on Tuesday afternoon.

"Termites and Their Control" was the subject of a talk by T. E. Snyder, Bureau of Entomology and Plant Quarantine, New Orleans, while "Lyctus Powder-Post Beetles and Their Control" was given by M. B. Christian, also of New Orleans. W. H. Scales, New Orleans, chose "A Suggested Building Code" as his subject. The Conference closed Wednesday afternoon with papers and discussions on "Ants and Their Control," "Dry Rot of Lumber and Damage Done" and "The Needs of the Southern Pest Control Operator."

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Cite Zeen Dry Cleaner

Zeen Chemical Co., Cleveland, has been charged with misleading representations in the sale of its product "Zeen" dry cleaner by the Federal Trade Commission. The company had said, in its advertisements, that the product would moth-proof or demoth woolen materials in upholstery or rugs in one application. The complaint issued by the commission says this is not so.

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E. J. Seaver Dies

E. J. Seaver, head of Seaver Laboratories, pest control operators, Beloit, Wis., died on January 15th. The business will be continued by his daughter, Vinola Seaver.

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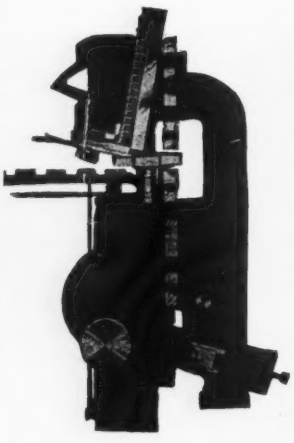
A. D. M. A. to Meet May 6-9

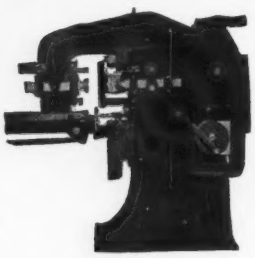
The American Drug Manufacturers Association will hold its convention this year at White Sulphur Springs, W. Va., May 6-9.

Special Offerings of SOAP MACHINERY *Completely Rebuilt!*

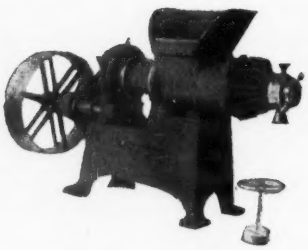


Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.

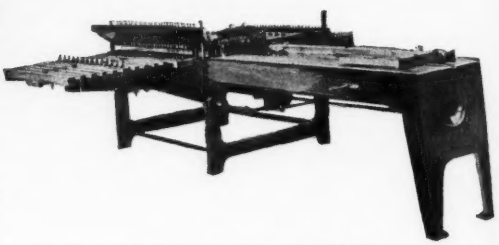
H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables.

INVESTIGATE THESE SPECIAL BARGAINS

•

Johnson Automatic Soap Chip Filling, Weighing and Sealing Machines for 2 lb. and 5 lb. Packages guaranteed in perfect condition.

•

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

- H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Allbright-Nell 10 inch Plodders.
- Filling and Weighing Machine for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and H-A Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
- National Filling and Weighing Machines.

Send us a list of your surplus equipment—
we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 WEST 35th STREET, CHICAGO — Phone Yards 3665-3666

Our Forty Years Soap Experience Can Help Solve Your Problems

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Chief chemist for a large specialty concern desires change or establish new concern. Possess excellent formulae and others developed from research. Household and automotive specialties, cosmetics, rat poisons, leather dressings, etc. Experienced in handling men, factory lay-out, packaging, buying, etc. Any proposition given consideration. Address Box No. 752, care *Soap*.

General Manager with full knowledge of sanitary chemical field, is open for position. Gentile, 40, fully qualified to take responsibility of sales, purchasing, accounting, etc. Seven years manager well-known chemical corporation. University graduate, excellent credentials. Address Box No. 753, care *Soap*.

Sales Representative: Man with following on Pacific Coast desires to represent manufacturer of fine and medicinal chemicals in that territory. For further details communicate with Box No. 746, care *Soap*.

Entomologist: Recent graduate in Entomology from leading eastern university desires connection in laboratory of insecticide manufacturer. Willing to start at the bottom. Best references. Address Box No. 745, care *Soap*.

Soap Maker and Chemist with long experience in the manufacture of all kinds and grades of soaps and soap products. Pacific coast preferred. Address Box No. 747, care of *Soap*.

Position Wanted: Thorough knowledge manufacture soap perfumes, synthetic essential and flower oils. Can match and improve odors. Location immaterial. Address Box No. 756, care of *Soap*.

Entomologist, Ph.D.; with twenty years background in all branches of profession and broad research experience in insecticidal field, particularly with household sprays, is desirous of connection with commercial concern, which will offer advancement and other opportunities not afforded by present position. Address Box No. 743, care *Soap*.

ARE YOU SNOWED IN?

by the high cost of operating with obsolete equipment?

Let Consolidated's low priced equipment clear the path to profits.

SELECTED SPECIALS

2—Proctor & Schwartz Soap Chip Dryers, steel frame; 1 with single cooling roll
1—Jones Vertical automatic Soap Press
3—Houchin Plodders, 10", 8"—1—Rutchman twin 6"
2—Pneumatic Scale Carton Packaging Units
2—Automatic Soap Wrapping Machines, electric glue sealers, adjustable.

Crutchers	Foot and Automatic Soap Presses	Filter Presses
Soap Kettles	Cutting Tables	Soap Frames
Powder Mixers	Pulverizers	Powder Fillers
Granite Mills	Soap Pumps	Labellers
Plodders	Soap Chippers	Tanks
Slabbers		Boilers

Send for New Illustrated Circular

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW — NEW YORK, N. Y.
BArclay 7-0600 — Cable Address: Equipment
We buy your idle Machinery—Send us a list.

It is buying wisdom to "ASK WECOLINE" before placing your orders for DISTILLED FATTY ACIDS and REFINED VEGETABLE OILS.

Among the Wecoline specialties are LAURIC . . . WHITE OLEIC . . . CAPRIC . . . STEARIC . . . also whole acids of PALM . . . COCONUT . . . CORN . . . TEASEED . . . SOY BEAN . . . LINSEED . . . COTTONSEED.

Learn about Wecoline's high standards of production . . . about the PURITY, WHITENESS OF COLOR, UNIFORMITY, and all around skilled processing of fatty acids and oils.

Inquiries also invited from manufacturers of specialty products which call for individually-processed fatty acids or oils, under rigid specifications.

Write for Booklet "30 Years of Progress"

WECOLINE Products, Inc. BOONTON, N.J.
Sales Offices: NEW YORK . . . . CHICAGO . . . . BOSTON

Insecticide Sales—Executive with twenty years background in sales and advertising with well-known firms; wide knowledge grocery, drug, hardware, chain and department stores; knows insecticide marketing from A to Z; open for new connection with manufacturer, preferably of nationally advertised line. For further details communciate with Box No. 750, care *Soap.*

Chemist, Ph.D.; many years practical experience in soaps, oils, fats, cosmetics, textile chemicals, etc., desires suitable connection. Address Box No. 716, care of *Soap.*

Positions Open

Middle west concern has opening for capable chemist or chemical engineer to take charge of plant operations. Must be thoroughly acquainted with technology modern soap manufacture. Forward full details of salary desired, experience and training to Box No. 751, care *Soap.*

Eastern Seaboard manufacturer wants salesmen to cover East and Mid-West with line of disinfectants, soaps, waxes, polishes and specialties. Commission. Write full details. Address Box No. 755, care *Soap.*

Wanted: Chemist—Splendid opportunity for advancement with live organization for capable young man who has had practical experience in the manufacture of rubless wax polishes. Replies treated in confidence. Address Box No. 742, care *Soap.*

Miscellaneous

Want to Buy—Flit type pint and quart cans. Plain or printed. State price and quantity. Address Box No. 748, care of *Soap.*

Oranges and Grapefruit. New Crop Tree Ripened Fruit. Fifty pound box $3.88 express prepaid. Let us send a box to your friend under your name. Georgia's Finest Paper shell PECANS 25c pound delivered. Shelled PECANS five pounds $3.75. Address Nichols and Co., Kingston, Ga.

Wanted for User: Soap chip dryer; filter press; foot and automatic soap press; crutcher; plodder; milling roll; dry powder mixers. What have you. Address Box No. 749, care of *Soap.*

Wanted: for rent, possibly purchase, plant having square footage of 35,000 or more; equipped for soap manufacture. Address Box No. 757, care *Soap.*

Factories installed or remodeled. Instruction profitable laundry and toilet processes and preparations, perfumes, glycerine recovery analyses. Address English or Spanish. Box No. 754, care *Soap.*

are you interested in

a *uniform* product with *high killing power* at a *staple price* . . . for INSECTICIDES?

Why not investigate

HI-TOX 20 . . .

new synthetic concentrate?

Manufactured under strict chemical control! Non-toxic and non-irritating! Non-injurious and non-staining to materials!

Samples and complete information upon request. ACT NOW!

ASSOCIATED CHEMISTS, INC.

6243 South Ashland Avenue Chicago, Illinois

Agencies Wanted: A newly formed company directed by a chemist with experience in research, factory production and sales, desires to represent reputable manufacturers of chemicals and allied products in the Philadelphia area. Address replies to C. & S. Chemical Co., Architects Bldg., Philadelphia, Pa.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Cincinnati firm covering part of Ohio would be interested in representing producers of oils or other raw materials used by soap manufacturers. Address Box No. 744, care *Soap.*

Liquidation from Soap Plant: Houchin 5 roll steel mill; 4 roll stone mill; Jones automatic soap press; foot press; Proctor soap dryer; Johnson carton sealers; automatic powder fillers; crutchers; plodder; 6 knife chipper; cutting table; frames; filter presses; mixers; boiling kettles, etc. Send for Liquidation Bulletin No. 402, Stein Equipment Corp., 426 Broome St., New York City.

Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, on page 142 for page numbers. *"Say you saw it in SOAP."*

ALKALIES

American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
Diamond Alkali Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

BULK AND PRIVATE BRAND PRODUCTS

Ampion Corporation (Sanitary Supplies)
Associated Chemists, Inc. (Insecticides)
Baird & McGuire, Inc. (Disinfectants)
Buckingham Wax Corp. (Wax Products)
Candy & Co. (Floor Products)
Chemical Supply Co. (Disinfectants, etc.)
Clifton Chemical Co. (Sanitary Supplies)
Cole Chemical Corp. (Sanitary Supplies)
Davies-Young Soap Co. (Potash Soaps)
Duke Paint & Varnish Co. (Floor Products)
Empire Chem. Prods. Co. (Sanitary Supplies)
Federal Varnish Co. (Floor Products)
Fuld Bros. (Sanitary Supplies)
James Good, Inc. (Sanitary Supplies)
Harley Soap Co. (Soap Specialties)
Higley Chemical Co. (Floor Seal)
Hockwald Chemical Co. (Sanitary Supplies)
Hysan Products Co. (Sanitary Supplies)
Koppers Co. (Disinfectants)
Kranich Soap Co. (Potash Soaps)
M. & H. Laboratories (Floor Waxes)
Onalim Co. (Shampoos)
John Opitz, Inc. (Insecticides)
Peck's Products Co. (Sanitary Supplies)
Philadelphia Quartz Co. (Detergents)
Reilly Tar & Chem. Co. (Floor Seals)
Geo. A. Schmidt & Co. (Soaps)
Superior Soap Corp. (Soaps and Waxes)
Sweeping Compound Mfrs. Co. (Sweeping Compound)
Twin City Shellac Co. (Wax Products)
Uncle Sam Chemical Co. (Sanitary Supplies)
T. F. Washburn Co. (Floor Products)
White Tar Co. (Disinfectants, etc.)
Windsor Wax Co. (Wax Products)

CHEMICALS

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
Diamond Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
General Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
Reilly Tar & Chemical Corp.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
Barrett Co.
Innis, Speiden & Co.
Koppers Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.
Tamms Silica Co.

CONTAINERS AND CLOSURES

American Can Co. (Tin Cans and Steel Pails)
Anchor-Hocking Glass Corp. (Closures and Bottles)
Continental Can Co. (Tin Cans)
Crown Can Co.
National Can Co. (Cans)
Owens-Illinois Glass Co. (Bottles and Closures)
Williams Sealing Corp. (Closures)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.
Garnet Chem. Corp.
Hysan Products Co.

INSECTICIDES, SYNTHETIC

American Cyanamid & Chemical Corp.
Associated Chemists, Inc.
Rohm & Haas Co.
U. S. Industrial Chemical Co.
Whitmire Research Corp.

MACHINERY

Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Karl Kiefer Machine Co. (Filling Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
Mixing Equipment Co. (Tanks, Mixers)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc.)
Stokes & Smith Co. (Pkg. Machy.)

Raw Material and Equipment Guide

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MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator)
Anchor-Hocking Glass Corp. (Metal Caps)
Barnsdall Tripoli Co. (Pumice—Tripoli)
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)
Filtrol Corp. (Purifying and Decolorizing Clay)
Flour City Brush Co. (Brushes)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants)
Koppers Company (Coal, Coke, Roofing Materials)
Lenape Trading Co. (Waxes)
Michel Export Co. (Synthetic Detergents)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
Reilly Tar & Chem. Co. (Preservatives)
Tamms Silica Co. (Silica—Volcanic Ash)
U. S. Industrial Alcohol Co. (Alcohol)
U. S. Industrial Chemical Co. (Solvents)

OILS, FATS, AND FATTY ACIDS

T. G. Cooper & Co.
Eastern Industries
Emery Industries, Inc.
Independent Mfg. Co.
Industrial Chemical Sales Div.
Leghorn Trading Co.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING MATERIALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. Du Pont de Nemours & Co.
Felton Chemical Corp.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Rifa—New York, Inc.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

PETROLEUM PRODUCTS

Deodorized Insecticide Base, White Oils, Petroleum, Paraffine Oils, Residues, etc.)
Atlantic Refining Co.
Pennsylvania Refining Co.
L. Sonneborn Sons

PHOSPHATES

Trisodium, Sodium Pyrophosphate, etc.
American Cyanamid & Chemical Corp.
John A. Chew, Inc.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Monsanto Chemical Works
Victor Chemical Works
Warner Chemical Co.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products
Associated Chemists, Inc.
Derris, Inc.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.
Whitmire Research Corp.

SILICATES

E. I. du Pont de Nemours & Co.
General Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SOAP DISPENSERS

Ampion Corp.
Bobrick Mfg. Co.
Clifton Chemical Co.
Fuld Bros.
Garnet Chem. Corp.
Hockwald Chemical Co.

SPRAYERS

Breuer Electric Mfg. Co. (Electric)
Fumeral Co. (Spraying Systems)

WAXES AND GUMS

Carnauba, Shellac, Candelilla, etc.
American Cyanamid & Chem. Corp.
T. G. Cooper & Co.
Innis, Speiden & Co. (Waxes)
Lenape Trading Co.
Mantrose Corp. (Shellac)
Twin City Shellac Co. (Shellac)

Professional Directory

Skinner & Sherman, Inc.
246 Stuart Street, Boston, Mass.
Bacteriologists and Chemists
Disinfectants tested for germicidal value or phenol coefficient by any of the recognized methods.
Research—Analyses—Tests

H. A. SEIL, Ph.D. E. B. PUTT, Ph.C., B.Sc.
SEIL, PUTT & RUSBY, INC.
Analytical and Consulting Chemists
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In buying soap dispensing equipment, you get what you pay for. Bobrick dispensers, sold only to the jobber and soap manufacturer, are priced at the very lowest figures to allow for our consistent high standard of quality.

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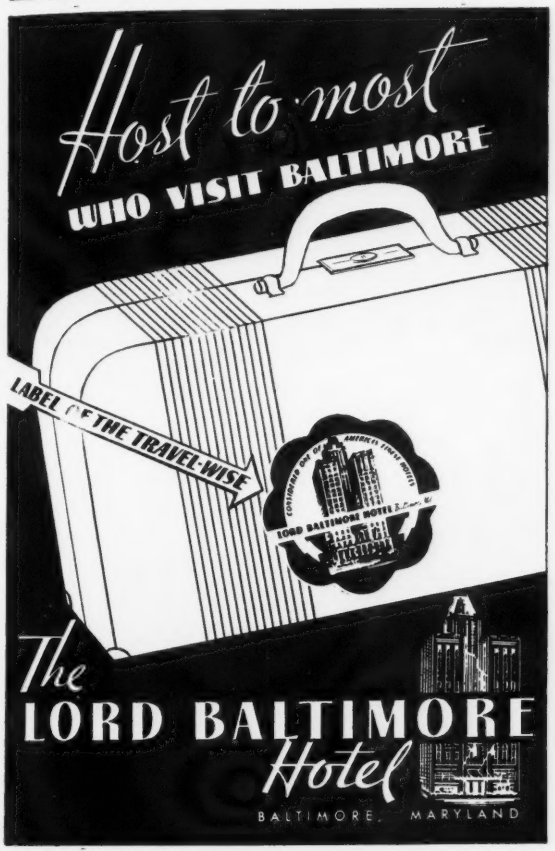

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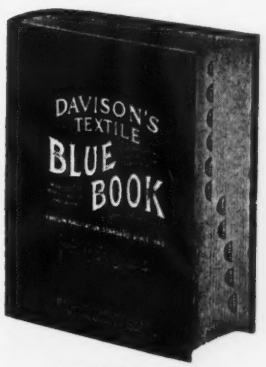

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254 WEST 31st STREET **NEW YORK**

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Tale Ends

BEFORE the Louisiana Legislature comes a request for an appropriation to reimburse bee-keepers of that state for the wholesale slaughter of bees resulting from widespread dusting by the state with calcium arsenate to eradicate the white fringed beetle. Bee business busted, says report to Legislature.

* * *

A woman stated that she was poisoned by using a certain soap and sued the manufacturer. A jury awarded her a small sum, just a fraction of that for which she sued. Evidence at the trial showed the soap to be a regulation high grade toilet soap. All of which goes to show what a great method the jury system is for trying cases involving technical and scientific evidence.

* * *

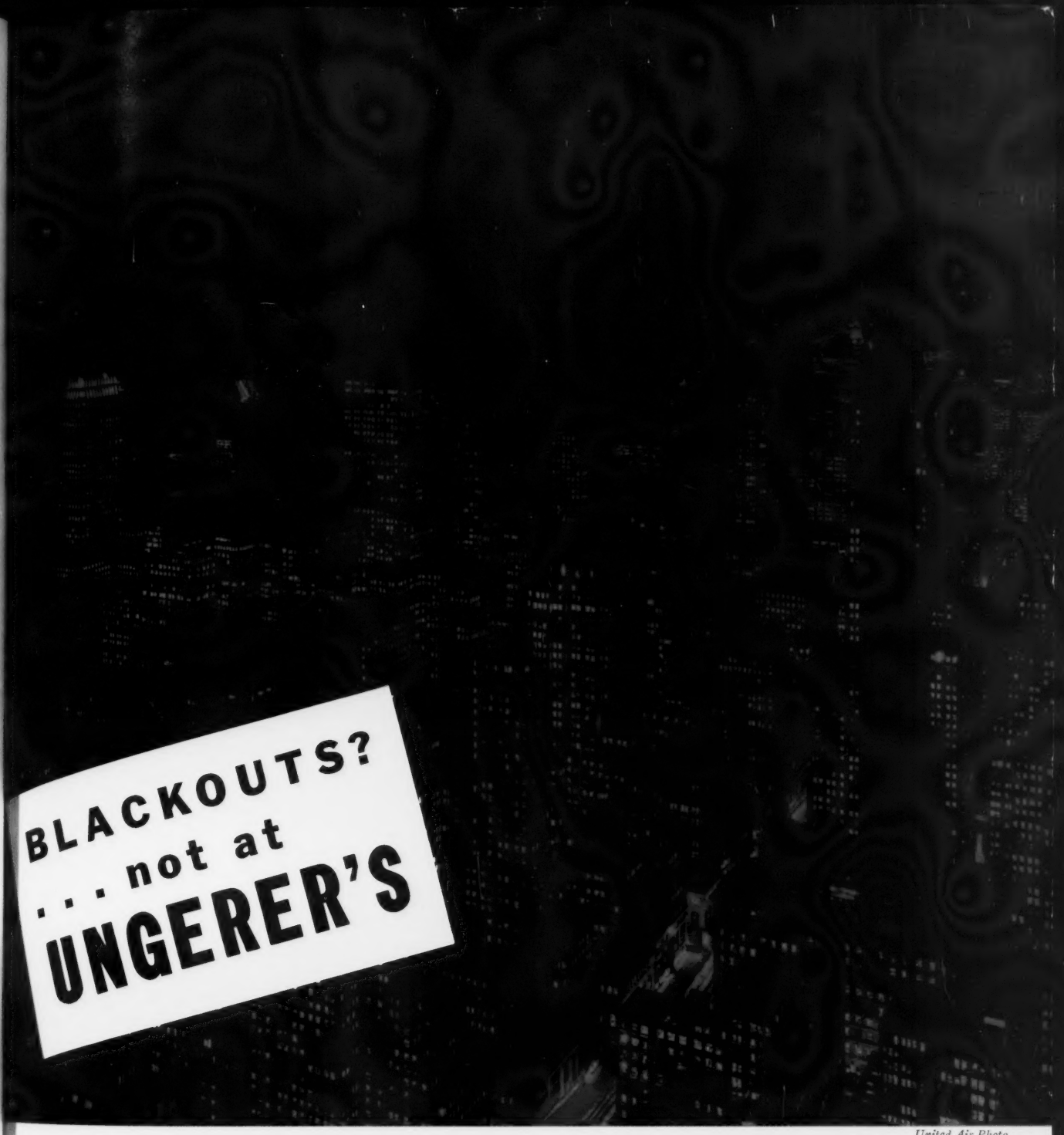
Sodium fluoride is "harmless to man and animals," according to Dr. Logan Clendening, who writes a syndicated newspaper "health" column. This certainly is news to the insecticide industry and to many public health and law enforcement officials. Imagine what would happen to a manufacturer who made a statement like this on his package. Public health journals please copy.

* * *

A Winnipeg grocer, fined for selling soap on Sunday under a law which restricts sales on that day to "necessities," maintained that soap is a necessity. But the hard-hearted judge ruled otherwise. Therefore, Winnipegians finding themselves sans soap on Sunday, must remain unwashed until Monday. Godliness is still first in Winnipeg!

* * *

The 1940 "Blue Book," the largest and most complete edition yet published, will be mailed *free* to paid subscribers of *Soap & Sanitary Chemicals* shortly after March 1. Note: Is your subscription paid up? If so you will receive your copy.



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